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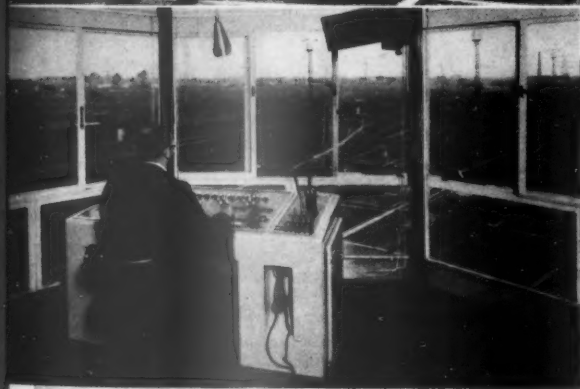
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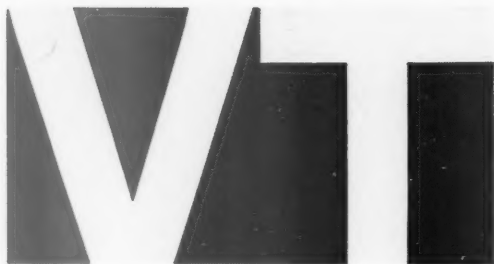
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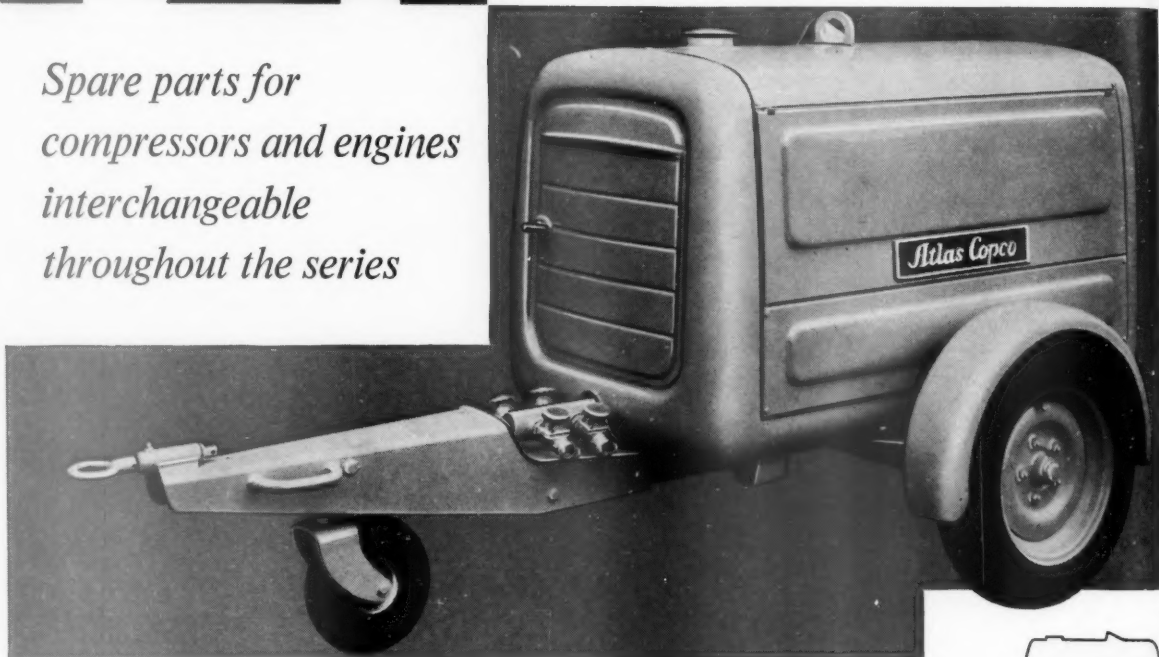
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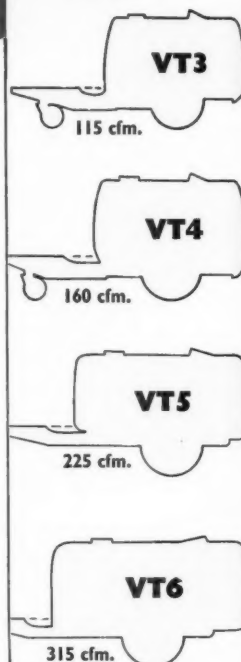
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THE RAILWAY GAZETTE

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B.T.C. Annual Census

THE basis of compilation of the annual census of manpower taken by the British Transport Commission has been changed and it is not possible to make comparisons with figures for previous years. Nevertheless, the interest now being taken in the volume and cost of railway labour forces focuses particular attention on latest returns. Briefly, the new method reflects actual instead of approximated numbers of staff. While pay and earnings continue to be on the basis of a full week's work, they now are compiled in respect of staff substantively in the various grades. Classification is according to activity: numbers represent the actual number on the payroll for the week ended March 22, 1958. Details relating to those absent for all or part of the Census week are excluded from average. Figures are rounded to the nearest shilling. Average basic payments in the Census week have been calculated: these are according to the relative agreements with employees' representatives. They exclude payments for piecework, bonus schemes, overtime, higher duty, and Saturday, Sunday, and night duty.

Average earnings represent earnings relating to Census week. Calculations cover total payments, including additional pay for the reasons listed above. A re-definition includes juniors entirely on an age basis: previously, juniors working in adult positions were treated as adults. The financial details given in the return are not entirely current, for the majority of British Railways salaried, conciliation, and workshop staff received agreed increases from June 30, 1958. The return therefore is preceded by a short table of estimated effects of these increases on average pay and earnings of selected grades. These show estimated increased earnings including the following: Clerical Staff (Category B). 11s.; Locomotive Staff (Drivers): 9s.; Traffic Staff (Guards, passenger): 7s.; Goods Handling Staff (Checkers): 5s.; Civil Engineering Staff (Gangers): 7s.; Signal & Telecommunications Staff (Installers Class 3): 8s.; Workshop Staff, Locomotive (Timeworkers—Craft): 8s. A preliminary summary of the pre-increase figures gives the average rate of pay for male adult salaried staff as £11 13s. and average earnings as £13 3s. Average rates of pay for Wages Staff were £8 15s. (Conciliation) and £8 9s. (Workshop); average earnings for Wages Staff were £11 12s. (Conciliation) and £12 5s. (Workshop). The total number of staff of all categories, excluding Officers, was estimated at 568,212.

Fifty Years' Active Service

A FULL half-century of continuous service with a company during which time he has played a leading part in its development, is an achievement in itself, of which any man may be proud. It becomes more noteworthy when many of the innovations which have marked, and contributed to, that progress have been adopted broadly. On December 23 last Mr. George Rollason, Deputy Chairman of Tothill Press Limited, the company owning and publishing this journal, was the recipient of presentations by Mr. A. C. Duncan, the Chairman, on behalf of the Board, and by Mr. A. Arnold, Editor of *Power & Works Engineering*, on behalf of the staff, to mark the completion of 50 years since he joined the staff of *The Railway Gazette*, the founder journal of the Tothill Press Group. During that time, his enterprise and unflagging energy have been responsible for the addition and development of most of the other 23 publications which now form the group. He has done much by example to improve the standard of advertising in the technical press and of the appearance and presentation of weekly and monthly technical journals. He has been a Director since February, 1915, and was a Managing Director from 1931 until 1954. He became Deputy Chairman in 1949, the position he still holds.

Prime Minister at Paddington

THE Chief Officers' Christmas Luncheon at Paddington is an annual event which goes back a very long way in the history of the Great Western Railway and has been maintained by its successor, the Western Region of British Railways. It is an occasion on which the Chief Officers entertain the members of the Board and since nationalisation former directors have always attended the luncheon together with, more recently, the Chairman and members of the Area Board. This year the luncheon, which was held on December 22, with the General Manager, Mr. K. W. C. Grand, in the chair, was attended by Mr. Harold Macmillan, the Prime Minister. Mr. Macmillan became a Director of the Great Western Railway Company in 1930 and was a member of the Board when the railways were nationalised as from the end of 1947. He and Mr. R. F. Hanks, Chairman of the Area Board, spoke briefly after the luncheon, which as usual was fully attended by present, and many former, chief officers.

Developing Mineral Resources in Swaziland

THE discovery of large deposits of ore, carrying up to 64 per cent iron, in North-West Swaziland, the British Protectorate in South Africa, and coal in the east of the territory, should put Swaziland on the industrial

map of Africa. To exploit the mineral resources of the Protectorate, already practically self-supporting, a railway would appear to be the first essential. To investigate the possibility of its construction, it is reported that Sir Arthur Griffin, former Chief Commissioner of Railways, India, and later General Manager, and subsequently Chairman, Rhodesia Railways, and now Economic Advisor to the Protectorate, will arrive in Swaziland early this year. A railway link with an outlet to the sea could run either through South African territory or through the Portuguese territory of Mozambique. The distance by rail to the port of Lourenço Marques from the railhead at Goba on the Swaziland border is a little over 50 miles. The iron-bearing territory is being prospected by Swazi Iron Ore Developments. This company is associated with the Anglo-American Corporation and Guest Keen & Nettlefolds Limited.

Overseas Railway Traffics

CANADIAN Pacific Railway revenue for the month of October amounted to \$38,985,895 compared with \$41,324,161 in October, 1957. Railway expenses were \$37,440,065 (\$36,515,977) resulting in net earnings of \$1,545,830 (\$4,808,187). Aggregate net earnings from January 1, to October 31, amounted to \$26,292,963 (\$29,466,233). Costa Rica Railway receipts for October were colones 1,663,633 compared with colones 1,572,200 in October, 1957, an increase of colones 91,433. Aggregate receipts from July 1, amounted to colones 7,117,881 (6,988,097). Net railway earnings of the West of India Portuguese Guaranteed Railway Co. Ltd. for the 10-day period ending November 30, 1958, were Rs. 27,257 compared with Rs. 108,124 in the corresponding period of 1957. To this sum has been added Rs. 2,804 as adjustment for September and October, 1958. Aggregate railway earnings from January 1, to November 30, were Rs. 1,775,067 compared with Rs. 2,528,465 in the corresponding period of last year. Paraguay Central Railway receipts have continued to improve compared with returns earlier in the year, and on November 21, aggregate receipts showed an increase on the 1957 total for the first time this year. The improvement was continued in the following week when receipts showed an increase of A. 704,997 over the previous year's equivalent.

Southern Region Passenger Service Cuts

CONSIDERABLE ingenuity is shown in the choice by the Southern Region of British Railways of further little-used passenger trains to be suspended on January 5 as an economy measure. Some details are given elsewhere in this issue. No business service is affected. The reduction of certain diesel-electric trains between Charing Cross and Hastings via Tunbridge Wells from 12 vehicles, i.e. two six-car sets, to one six-car set, is wise. The service of stations between Tunbridge Wells and Crowhurst by a six-car diesel set from and to Charing Cross has certainly been lavish during the slack periods of the day in winter. It would be interesting to know how far the ample service has built up traffic at stations such as Robertsbridge and Battle, which might be busy railheads. Of the cuts in steam services the limiting of some Bristol-Portsmouth trains to Salisbury, as their southern terminus, is a rational step in view of the frequent diesel services between Salisbury, Southampton, and Portsmouth. Care has been taken to ensure that as much as possible of the additional waiting for connections resulting from the cancellations will be at change stations with refreshment facilities.

Passenger Services Withdrawn in Wye Valley

NEXT Monday sees the withdrawal of passenger train services from two branches of the Western Region of British Railways which run through some of the most beautiful scenery in Britain, those from Ross-on-Wye to Monmouth and thence to Chepstow. The line is close to the River Wye most of the way, passing places of such beauty and historic interest as Goodrich Castle, Symonds Yat, the town of Monmouth, and Tintern Abbey. The

train journeys afford some of the best views of the valley, better than those obtainable from the roads. Both branches have been operated by comfortable railcars. Public patronage nevertheless has been insufficient to justify the cost of continuing the passenger service. How far these facilities for seeing, and travelling to, a countryside almost unrivalled in its own type of setting, will be missed once they have been withdrawn, remains to be seen. British Railways cannot afford to be sentimental. Essential railway services to the communities in the area are ensured by keeping certain stations open for goods and parcels traffic.

Road Vehicles Through Alpine Tunnels

WINTER sports in the Swiss Alps have been made possible for many thousands by the enterprise of the Swiss railways in building lines to serve the resorts and in providing fast, frequent, and comfortable services. At this season also, when some mountain passes are blocked by snow, or the ascent and descent by road made hazardous, many motorists have cause to be grateful for the efficient arrangements made for transport of road vehicles on flat wagons, and of their passengers, through four major tunnels. These save road users many miles' detour, and for some resorts in the Engadine afford in mid-winter the only convenient access by road from a large area of Europe. The service through the St. Gotthard and Simplon Tunnels, under the passes of those names, is provided by the Swiss Federal Railways, that through the Loetschberg Tunnel, which obviates some very circuitous road journeys, by the Berne-Loetschberg-Simplon, and the service through the Albula Tunnel, giving access to the Engadine, by the metre-gauge Rhaetian Railways. Because of the restricted loading gauge, motorcoaches are not conveyed through the Albula. A similar facility has long been provided by the Western Region of British Railways, and by its predecessor, the G.W.R., through the Severn Tunnel.

Passenger Railheads

THE fact that the private motorcar is a useful ancillary to travel by train is now recognised by most railway managements. It is accepted that the passenger will travel by train only between major centres where train journeys beyond these points are inconvenient. The result on British Railways has been the discontinuance of through carriages to and from some stations which are badly served, perhaps for geographical reasons, by rail. Certain major stations are recognised as railheads, such as Doncaster for Scunthorpe, and Leeds Central and City for a number of West Riding towns. It is only recently, however, that station and enquiry office staffs have ceased trying to induce the intending traveller to go by train the whole way. Tedious journeys made on such advice in the past have resulted in permanent preference for travel by road. It is important to encourage such rail-and-road travel, more particularly for business journeys, by providing amenities, including attractive refreshment facilities, and adequate and convenient car parks. At some stations in the provinces the station hotel provides the waiting passenger with the services he requires. Some important stations, however, used as railheads are still rather comfortless.

Speeding Up Travel to the Continent

IN cross-Channel traffic the railways are at a disadvantage, compared with the air lines, as regards Customs and Immigration formalities at ports. Because an aircraft conveys relatively few people, the concentrations of passengers at airports tend to be smaller, and delays caused by formalities correspondingly less. That is given by many people as a reason for preferring air travel. British Governments in the past were reported to have opposed building of the Channel Tunnel partly because of the necessity, in their view, for an efficient fleet of Channel steamers, presumably for strategic reasons. Conditions have changed. But until the Channel Tunnel is built, British Railways passenger shipping services to the Con-

tinient are of great importance because they make possible the movement at peak periods of heavy passenger traffic, including tourist traffic of considerable value to Britain, which would be beyond the capacities of the air lines. In addition they operate, unlike aircraft, in all weathers. The same considerations apply in a lesser degree to the Anglo-Irish services. The Government should afford practical help to the railway shipping services by agreeing to what the railways are understood to have requested many years ago: the conduct of Customs (hand baggage) and Immigration formalities in the boat trains from and to packet ports.

First Electric Locomotive from Doncaster

BESIDES the building of diesel-electric shunting locomotives, British Railways Doncaster works, in the Eastern Region, has in production 13 2,500-h.p. electric locomotives destined for service in the Southern Region. The first of these was completed this week. It is the first main-line electric locomotive to be built for British Railways at Doncaster works, the only railway works in the country at present undertaking an electric locomotive building programme. The locomotives will be brought into operation when the electrified services to the Kent Coast via Chatham start in June, and will haul main-line goods and certain passenger trains, including the heavy "Night Ferry" conveying London-Paris sleeping cars between Victoria and Dover. Electrical equipment has been supplied by the English Electric Co. Ltd., and the locomotives are being fitted to pick up current from either the third rail or from overhead wires. They were designed to the general requirements of Mr. R. C. Bond, formerly Chief Mechanical Engineer, and Mr. S. B. Warder, Chief Electrical Engineer, British Railways Central Staff, British Transport Commission.

Passenger Fare Problems

THE necessity to increase the passenger revenue of British Railways is the more urgent because total revenue from passenger traffic for the year now ended, instead of compensating for the decrease in goods traffic receipts, will work out, according to indications, at less than the 1957 figure. The difference is not likely to prove great, less than £1,000,000, whilst the totals approach £140,000,000. The need for an early rise in receipts complicates the problem of price-fixing in a changing market, which the British Transport Commission is attempting to solve in its Charges Scheme, now before the Transport Tribunal.

In view of the persistence of considerable public spending power and despite the increased traffic caused by the petrol shortage early in 1957, passenger takings for last year are disappointing. The recession is stated to have caused a decline in holiday travel, more especially from the industrial Midlands and North. Travel at fares grouped under the heading "other descriptions" in the statistics published by the British Transport Commission was less a little in August compared with those weeks of the preceding year, both in passenger journeys and in receipts. As this group consists largely of party and excursion fares, the reports of relatively poor party and excursion traffic are borne out. On the other hand, there was more travel in August and September last at full fares than there was a year before. As most people travel at ordinary fares to and from the places of their annual and Christmas and Easter holidays, this does not support the theory that holiday travel last year was seriously affected. A drop in first class travel during the first nine months of the year seems due largely to the growth of private motoring, at least over shorter distances.

What sales resistance is to be expected to any higher fares is problematical. The principal features of the Passenger Charges Scheme were stated in our issue of September 5, 1958, and the main submissions of the Commission in presenting its case are summarised in the

account on another page of the preliminary hearing before the Tribunal. The Commission had already stated its intention not to raise fares generally for the next six months. This amongst other things gives time for watching the trends of ordinary traffic in main-line and local services in several parts of the country. Introduction of further diesel trains and railcars should capture and retain much traffic. Against this must be set the continuing high level of motorcar sales, though whether the effect of this will be felt until the summer holiday season is doubtful. For business travel over medium and long distances the train has the obvious advantages of speed and of comfort in all weathers, besides relief from driving through the congested approaches to towns, and from finding parking space. The great comfort of many expresses is a good reason for charging reasonable supplementary fares. The present Pullman supplements are extremely moderate for what is provided. Given good service and punctuality, most business travellers are unlikely to grudge higher supplements or the extension of supplementary fares to other trains.

The manipulation of fares to spread peak-hour travel, permission for which is now sought, and the proposal that fares for travel by the night bus services of London Transport should be increased, perhaps up to twice the ordinary day fare, are new, at least in the form they are now presented. Relief to peak-hour services has been afforded in the past by restricting travel at reduced fares other than season tickets to trains outside these hours. Even so, the monthly return ticket, allowing of travel at a single fare and one-third, was available by practically every train.

Railway Development in Canada

THE advent of diesel motive power represents the greatest single advance in railway transportation since the invention of the steam locomotive. This view is expressed by Mr. R. A. Emerson, Vice-President of the Canadian Pacific Railway Company, in a recent address to the Canadian Railway Club in Montreal. He is thinking, presumably, in terms of North America, where electrification does not play so important a part, relatively, as it does on railways in other continents.

Without the diesel locomotive, he states, the problems of the railway industry today would not only be serious, they would be "catastrophic." He does however point out that diesel motive power does not constitute the only real example of recent progress. Accompanying developments in other phases of operation have been only slightly less spectacular. In Canada, particularly, improvements in goods wagons of all types in terms of increased size and load capacity, better construction, and improved running gear, have contributed steadily and surely to improved performance. In passenger service, new rolling stock has introduced standards of efficiency and comfort unknown even a relatively few years ago. The overhaul of terminal facilities on the Canadian railways and the construction of new marshalling yards provided with radio communication and other devices are enabling more traffic to be handled with steadily increasing efficiency. Improvements in permanent way have been keeping pace with the increased weight and size of rolling stock. Another of the more spectacular recent developments has been the application of electronic computers to the data processing field on the C.P.R. With the large number of transactions involved in the day-to-day operation of the railway system, these machines, he states, open up a whole field of potential applications and benefits.

Mr. Emerson considers that one of the most important recent developments in North America is the institution of "piggyback" services, which combines the efficiency of rail transport with the flexibility of the motor vehicle at terminals. While this development has been too new to be moulded into a uniform pattern, it does open up a broad area of possible benefits to the railway and motor vehicle operators alike.

People connected with the Canadian railway industry,

he points out, are interested in the enquiries into the freight rate structure and the general field of railway problems and policies which the Canadian Government intends to institute. The railways, he states, have nothing to hide from such inquiries.

"Indeed, we welcome an objective examination if it is free from the passions and prejudices which have, unfortunately, been prevalent so often in the past. One of the matters which will undoubtedly come in for close scrutiny and examination, is the question of the so-called 'Crowsnest Pass Rates.'" Fixed by statute on the scale of 1899, these rates, on grain and grain products moving from the Prairies eastward to the lakes and westward to the Pacific coast for export, are applicable to more than 25 per cent of the total volume of freight carried by the Canadian Pacific Railway but yield less than 10 per cent of freight revenues. The cost of the transportation of grain has moved upward with the cost of the transportation of other commodities as a result of increased labour and material costs, a direct product of the inflation experienced in the post-war period. The rates are not, however, open to change except by the action of Parliament.

Brazilian Mineral Traffic

HIGHER output from iron ore mines is bringing more traffic to Brazilian railways. Export of high-grade iron ore increased by 1,000,000 tons a year to 3,520,977, between 1955 and 1957; 90 per cent of the shipments are at present carried over the metre-gauge Victoria-Minas Railway, which connects the Itabira mines with the port of Victoria, and is the property of the State-owned Cia Vale do Rio Doce. The company continues to improve its mining processes, movement by rail, and port equipment with a view to raising export capacity to 6,000,000 tons by 1960.

The remaining 10 per cent of the iron ore at present exported is carried by the Central Railway of Brazil, which also handles supplies of iron, manganese, and other raw materials for the steelworks in Minas Gerais, Sao Paulo, and Rio de Janeiro. No very recent figures are available as regards aggregate local consumption of iron ore, but the National Steelworks at Volta Redonda mined 900,625 tons for its own use in 1957 and the expansion programmes of the principal steel manufacturers, now being carried out, will raise production of steel ingots to 3,500,000 tons in 1963.

The Minas Gerais Iron Ore Quadrilateral, alone, has reserves estimated at 15,000 million tons of ore, with an average of 65 per cent iron content while those of Mato Grosso are calculated at between 10,000 and 50,000 million. There is, therefore, an adequate supply to meet present and future domestic needs, while leaving a big margin for export. Transportation difficulties have delayed supplies to the mills in the past, however, and restricted exports over the Central Railway, causing the loss of valuable foreign contracts. Considerable improvements have been effected during the last two to three years; 250 miles of deviations have recently been completed between Lafaiete and Barra do Pirai, as well as those from Serraria to Fernandes Pinheiro and from Sergio Macedo to Santos Dumont.

The last-named section is nearly 4 miles long, has a maximum gradient of 1 in 125 instead of 1 in 66 and a minimum curve of 15 ch. C.T.C. has been installed between Lafaiete and Japeri. The *Linha do Centro*, (Central Line) which serves the mines, is being remodelled throughout and additional motive power and rolling stock have been acquired.

Train weights have been progressively raised from 600 to 2,700 tons and finally, in July last, to 5,500 tons. Compositions of 55 wagons, hauled by three 1,600-h.p. Baldwin diesel-electric locomotives, convey iron ore from the Paraopeba zone, and limestone from Antonio Carlos, to Volta Redonda, to the national steelworks and other manufacturers. The maximum speed is at present 25 m.p.h. over the 5 ft. 3 in. gauge line of the mountain section.

Further improvements are being carried out, including the re-equipment of the Tres Rios and Lafaiete marshalling yards and the construction of 124 miles of deviations. The ore trains of the Central Railway now deliver mainly to local steelworks, but several projects are under consideration to by-pass the congested section at the approaches to Rio de Janeiro to increase export capacity. One proposal is to build a new line from Itabirito to Andrelandia and divert part of the ore to the port of Angra dos Reis; another is to construct a new port at Itacurussa, near Rio de Janeiro, and connect it by rail to the Central Brazil system, cutting out the Rio suburbs.

Railways in 1859

AT the beginning of 1859, the great triumvirate of railway engineers were in their mid fifties. By the end of the year, two were dead, and the third had only a few more months to live. What has been called the heroic age of engineering was over. Isambard Kingdom Brunel died from paralysis at his home in Duke Street, Westminster, on September 15, aged 53, and Robert Stephenson, who had attended Brunel's funeral, died at his home in Gloucester Place on October 12, within a few days of his 56th birthday. The third of the trio was Joseph Locke. Brunel had seen the completion of the Royal Albert Bridge at Saltash, but was too ill to attend the formal opening by the Prince Consort on May 3. Stephenson's Victoria Tubular Bridge across the St. Lawrence at Montreal was opened on November 24, six weeks after the death of its designer; the first passenger train crossed on December 17. The Royal Albert Bridge, and with it the 53½ miles of the Cornwall Railway from Plymouth to Truro, was opened to public traffic on May 4, and linked the Royal Duchy with the rest of the railway system of England. It completed the railway connection from London to Penzance, but with break of gauge.

Another large opening of the year was of the East Suffolk Railway and associated lines, all worked by the Eastern Counties Railway, of which 58 miles were opened simultaneously on June 1, and served the coastal territory between Ipswich and Yarmouth. The 33 miles of the Portsmouth Railway from Godalming to Havant were brought into use on January 1, and the 22 miles of the Salisbury & Yeovil Railway from Salisbury to Gillingham on May 2. Both railways were worked by the L.S.W.R. Other openings are recorded this week in our Scrap Heap columns. Board of Trade Returns show increases in mileage during 1859 of 383 in Great Britain (308 in England & Wales, 75 in Scotland), and 77 in Ireland, bringing the total of the United Kingdom to 10,002 route miles, of which 8,737 were in Great Britain. These figures show slight variations from the public openings, due to differences between formal sanction and the beginning of regular traffic. During the year, 93 Local and Personal Acts of Parliament affecting railways were passed in Great Britain. Most of them were for additional powers to existing companies, but a few incorporated new railways, including the Charing Cross Railway on August 8. This was the beginning of the period of "contractors' lines." An Act of August 1 changed the title of the East Kent Railway to the London Chatham & Dover Railway. A Public Act, the Railway Companies Arbitration Act, 1859, enabled railway companies to agree in writing to settle differences with other companies by arbitration. The year was singularly free from serious railway accidents, for a period in which neither signalling nor braking was fully developed. There were only four accidents in which a passenger was killed, one in every case. Gladstone's budget of July 18 increased income tax from 5d. to 9d. to meet the cost of national defences.

In world politics, the year 1859 marked a turning point in events which, among many other things, were to have a profound effect upon transport. Unrest at Austrian domination in the countries south of the Alps resulted in the declaration of war on May 3 between France and Austria. The Austrian forces suffered their famous defeats of Magenta on June 4 and Solferino on June 24; the out-

come was to be the unification of Italy. On October 16, an anti-slavery raid on Harper's Ferry, led by John Brown (who was hanged on December 2), was the match which fired the American Civil War, the first major conflict in which railway transport played an outstanding part. Increases in the railway mileage of the U.S.A. totalled some 1,821 miles, substantially less than in the previous year, and destined to be lower still for the next seven years. More than 20,000 miles were built during the decade of the 1850s, but progress in the 1860s was retarded by the Civil War. Construction of the Suez Canal was begun formally at Port Said on April 25, a great triumph for Ferdinand de Lesseps.

The birth of the oil industry, which later enabled the diesel engine to revolutionise rail traction, also may be placed in 1859. Previously, petroleum had been known only through natural seepages or hand-dug wells, but on August 27 a drilling at Titusville, Pennsylvania, was rewarded with crude oil at a depth of 69 ft. The successful operator was E. L. Drake, formerly a conductor on the New York & New Haven Railway. Giffard's injector was first applied to steam locomotives in 1859, by Sharp, Stewart & Company. On September 1, George Mortimer Pullman's first sleeping car (rebuilt from a Chicago & Alton Railroad coach) began service between Bloomington and Chicago.

Among prominent men with railway associations who died during the year, besides the two famous engineers already mentioned, were William James Chaplin, Chairman of the London & South Western Railway, and a Partner in Chaplin & Horne, on April 24; Dr. Dionysius Lardner, author of "Railway Economy" and many other works, at Naples on April 29, aged 66. On May 5 died Prince Metternich, aged 86. As Chancellor he had done much to foster railway building in the Austrian Empire, including the territories in Italy which shortly afterwards were unified as the Kingdom of Italy. He was responsible for creation of a large part of the railway systems of Central and Southern Europe as they exist today.

Signalling in New Zealand

ALTHOUGH railways were introduced into New Zealand in 1863, worked at first as isolated provincial Government systems but formed in 1876 into a national one, there was at first very little signalling. A certain amount of the Winter's block apparatus had been installed up to the beginning of this century.

In 1901 a mechanical interlocking installation was brought into service at Wellington and a beginning made with applying electric tablet apparatus. The system was, and remains, very largely single line. In 1904, signals were applied to the crossing loops and three years later automatic tablet exchangers were introduced. In 1908 electro-pneumatic power signalling was installed at Dunedin and it was decided to use lock-and-block on the double line sections. The latter working finally disappeared in favour of automatic signalling in 1936. The application of fully interlocked mechanical signalling at the principal stations in the meantime had been carried forward, combined with key locking of crossing loop points and tablet locking of main-line sidings. British practice was followed, but had to be adapted to local conditions. In places these approximated to those found in parts of America, so that automatic signalling soon appealed strongly to the operating department. In 1920 installations using the three-position semaphore were ordered for both double- and single-line sections. They were found satisfactory and were followed by others, with colour-light signals in place of semaphores. The Government policy of making electric power generally available throughout the country facilitated this development. Only rarely was battery operation necessary. By 1938 there were nearly 270 route-miles of automatic signalling of which 78 were double line, and 33 crossing loops were being worked automatically and 32 power signalboxes were functioning. Those at Auckland and Wellington each contained 127 levers. A few stations

had been fitted with locally constructed relay interlocking panels and the installation of C.T.C. decided on.

This was carried out energetically despite difficulties caused by the war. There are now 850 miles of single line fitted with automatic signalling of which 180 are under C.T.C. All new work in connection with lengthening of crossing loops to 700 yd. to accommodate longer trains, is designed to fit in with this plan. The total mileage of the system is now 3,418, of which 150 are double and signalled automatically throughout. An important feature is a single-line suburban branch in the Wellington area, where the working of the terminus besides the ordinary signalling is normally entirely automatic, with manual controls available to meet emergencies.

Recent signalling developments in New Zealand were described in a paper by Mr. W. A. Hardman, engineer in charge of new signalling works in the North Island, read on his behalf to the Institution of Railway Signal Engineers in London by Mr. W. R. Carslake. The paper dealt with the methods adopted since the war to rationalise installation work by prefabricating many items of equipment. This was done by using mechanised processes and a specially-fitted work train to deliver and distribute on site, and by organising every operation in detail to enable each installation to be put in, tested, and brought into service at minimum time and cost. Only in this way was it possible to carry out the large amount of work waiting to be done, principally in connection with the intended application of additional C.T.C. to the North Island main line between Wellington and Frankton.

The general principles followed have been applied in varying degree in other places before. In this case more or less standardised crossing loop layouts, signalled on a uniform system, were no doubt very favourable to the application of a closely planned repetitive procedure.

Persistent Fall in Railway Freight Traffic

(By a correspondent)

IN four weeks to November 2 the tonnage of freight train traffic on British Railways declined again at the rate of fully 14 per cent. The total originating traffic dropped by 3,122,000 tons to 18,611,000. Merchandise forwardings were down by 360,000 tons, or nearly 11 per cent, to 2,920,000. Mineral carryings fell by 1,169,000 tons, or about 23 per cent, to a total of 3,968,000. A decrease of 1,593,000, or 12 per cent, in coal class traffic left the railways with only 11,722,000 tons to move.

These figures are a great contrast to the business done in the eleventh period of the busy year 1953. The railways then originated 4,124,000 tons of merchandise, but have since lost 1,204,000 tons, or 29 per cent, of that quantity. They also carried 5,285,000 tons of minerals, 1,317,000 above this year's figure—a difference of 25 per cent. Coal and coke declarations were high at 14,382,000 tons, no less than 2,660,000, or 18 per cent, over this year's consignments.

In the October period the railways worked 1,421 million ton-miles, 213 million fewer than in 1957. This decrease of 13 per cent in traffic movement was a bad start for the heavy loading expected in the last quarter of the year. Compared with the same period of 1953, ton-miles dropped by 439 million or 23 per cent; merchandise ton-miles fell by 140 million, or 25 per cent, more sharply than the ton-miles produced by minerals or coal. The present tendency is for merchandise loadings to decline faster than coal loadings and the average load of merchandise at starting point shrinks, while the average load for minerals and coal expands.

For the four weeks to November 2, receipts from freight train traffic dropped by £3,677,000, or 15 per cent, below 1957, though many freight rates have been raised in recent years. In 1957 a wagon of merchandise earned 4s. 10d. more than in 1955, but a wagon of minerals brought in 20s. 3d. more revenue on an average and a wagon of coal 21s. 10d. Compared with 1953, when

traffic was larger and rates lower, the decrease in receipts for the four weeks was £1,414,000, or 6.5 per cent; revenue from merchandise was £1,542,000, or 17 per cent, less, and from minerals £235,000 less, or 6 per cent, but coal receipts were up £363,000, or 4 per cent.

A comparison of freight receipts for the first 44 weeks of 1953 and 1958 shows conclusively the effect of the changes in traffic volume and in rates. Aggregate receipts decreased from £220,211,000 to £218,994,000—a fall of £1,217,000, or less than 1 per cent. Merchandise receipts declined from £91,093,000 to £78,057,000—a difference of

£13,034,000, or 14 per cent. Mineral receipts varied by only £43,000, or 0.1 per cent, while coal class revenue rose by £11,860,000 from £91,165,000 to £103,025,000, or by 13 per cent.

Before the war our railways could rely upon merchandise and livestock producing 47 per cent of their freight train revenue, while minerals accounted for 16 per cent and coal for 37 per cent. In 1958 merchandise is not likely to earn more than 35 per cent of freight receipts and coal may provide about 47 per cent of the reduced revenue.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of Correspondents)

Automatic Couplings on Goods Wagons

December 16

SIR,—I refer to a statement in the article by a correspondent in your issue of August 15, 1958, that the chopper type centre buffer coupling is used on the Central Australia and North Australia Railways. The chopper type couplings previously in use on the Central Australia Railway have now been replaced by automatic couplings on all of the locomotives, passenger coaches, vans, and railcars, and on most of the freight stock. A tender for the supply of components necessary for the conversion was accepted in May, 1956, and on receipt of a suitable number of the various components the actual work of conversion was commenced in the following year.

The programme entailed the conversion of 576 units of rolling stock (13 locomotives, 39 coaches and vans, 4 railcars, 91 cattle vans, 417 freight wagons, and 12 privately-owned oil tank cars). To date, a total of 450 vehicles have been converted, and it is expected that the full programme will be completed in three months from now.

Before construction of the Port Augusta to Marree standard-gauge railway much of the rolling stock on the Central Australia Railway and on the narrow-gauge system of the South Australian Railways was interchanged through Quorn. As the latter rolling stock is fitted with chopper couplings, the incentive to convert at an earlier date was offset to some extent because of this, despite the obvious advantage of automatic couplings on the Central Australia Railway.

Yours faithfully,

H. E. WATSON,
Secretary

Commonwealth Railways,
623, Collins Street, Melbourne, C.1.

Automatic Train Control

December 19

SIR,—I was most interested in the article in your issue of October 24, on pages 506-507. The information given on the Belgian National Railways, however, is not complete.

The cab-signalling equipment of the crocodile type was installed long ago on all S.N.C.B. main lines. Most of the steam locomotives, and all electric and diesel rolling-stock are equipped with the necessary contact brush. The diesel-electric locomotives hauling some trains to and from Cologne over the German Federal Railways have been equipped with the German Indusi-system. As stated in your article the crocodile type cab-signalling is simply a warning system, and there is no automatic braking.

The Belgian National Railways are testing "real" A.T.C., braking included, on a large scale. For instance, all diesel railcars running between Brussels (Halte Centrale) and the National Airfield at Melsbroek have the Swiss Integra equipment, which also has been installed on many electric locomotives. The impulse is not given by induction, as in the Signum equipment, but by crocodile and contact brush.

In addition, with the other electric rolling stock, there have been experiments with a combination of crocodile

equipment as a braking A.T.C. with the type of tachymeter normally installed.

The principle is as follows:—A warning signal energises the electrovalve of the whistle fitted in the tachymeter; (2) the air is taken out of a small reservoir forming a part of the dead-man safety device; and (c) if the driver fails to shut off the whistle, the dead-man safety device comes into action and brakes are applied.

Yours faithfully,

F. BAEYENS
Société Nationale des Chemins de Fer Belges,
Direction Matériel et Achats

21, Rue de Louvain, Brussels

Publicising Railway Traffic Achievements

December 15

SIR,—Part of British Railways struggle to re-establish themselves in public esteem is psychological. People who have little knowledge of railway affairs, other than through Press reports, form the idea that the railways play a negligible part in present-day transport and the effect is for these people to look elsewhere for service when they do have goods to carry or a journey to make.

I suggest the display at all important stations of a large poster headed "What We Did Last Year," followed by a list of parcels dispatched and received, tickets booked, and tons of goods handled. The poster could be mass-produced and the figures inserted at the individual station. In most cases, I am confident, they would surprise a great many who saw them.

Yours faithfully,

WILLIAM B. STOCKS

22, Heatherfield Road, Marsh, Huddersfield

British Railways Freight Power

December 15

SIR,—I refer to the editorial note in your issue of October 17, in which you mention the economic disadvantage of building diesel-electric locomotives for British Railways some 30 tons heavier than is necessary, so as to provide the necessary adhesion for braking on goods trains not fitted with continuous brakes. As the locomotives will not be in service until 1961 and the programme of fitting brakes to wagons will be complete probably by the end of 1963, the extra weight will be needed only during the transition period of two or three years or about one-tenth of the locomotives' working lives.

May I suggest alternatives to this rather wasteful solution: that (a) the locomotives be fitted with disc brakes and/or track brakes; (b) special brakevans be built with disc and/or track brakes; and (c) additional weight affixed to locomotives and/or brake vans be capable of being removed once it is no longer required, that is, when all wagons have been fitted with continuous brakes.

Yours faithfully,

R. HEWITT

19, Oaklands Avenue, Romford, Essex

THE SCRAP HEAP

British Railway Centenaries of 1959

Below is a list of some British railway centenaries which occur during 1959:—

January 1, Godalming to Havant opened (33 miles), London & South Western Railway (Portsmouth Railway)

February 1, Epsom to Leatherhead (3½ miles), Epsom & Leatherhead Railway, opened by L.S.W.R. (L.B.S.C.R. traffic from August 8, 1859)

February 16, Northampton to Market Harborough opened for passengers (18 miles), goods earlier, London & North Western Railway

March 3, Approaches to Tyne Docks opened for goods (1½ miles), North Eastern Railway

March 15, Glastonbury to Wells opened (5½ miles), Somerset Central Railway, worked by Bristol & Exeter Railway until 1861

March 21, Kintore to Alford opened (16 miles), Alford Valley Railway

April 4, Raynes Park to Epsom opened (5½ miles), London & South Western Railway (Wimbledon & Dorking Railway)

April 13, Sleaford to Boston opened (16½ miles), Boston, Sleaford & Midland Counties Railway

May 2, Salisbury to Gillingham opened (22 miles), Salisbury & Yeovil Railway (L.S.W.R.). Opening included Fisherton Junction to Salisbury Fisherton Station, and curve from Milford to Fisherton

May 4, Plymouth (Cornwall Junction) to Truro opened for passengers (goods October 10, 1859) (53½ miles), Cornwall Railway. This included the Royal Albert Bridge

June 1, East Suffolk Railway opened (48 miles), Woodbridge to Halesworth (21½ miles), Beccles to South Lowestoft (8 miles), Wickham Market to Framlingham (6 miles), Snape Junction to Snape (goods only) (1½ miles), Saxmundham to Leiston (3½ miles), Fleet Junction, Haddiscoe to Yarmouth (South Town) (7½ miles). Worked by Eastern Counties Railway

June 1, Ipswich (East Suffolk Junction) to Woodbridge opened (9½ miles), Eastern Counties Railway (Eastern Union Railway)

June 18, Broughton to Coniston opened for passengers (8½ miles), Coniston Railway. Worked by Furness Railway

June 22, Plymouth (Tavistock Junction) to Tavistock opened for passengers (goods February 1, 1860) (13 miles), South Devon & Tavistock Railway

July 12, Honeybourne to Stratford-on-Avon opened (9½ miles), Oxford, Worcester & Wolverhampton Railway

July 18, Southall to Brentford opened for goods (passengers May 1, 1860) (4 miles), Great Western & Brentford Railway, Broad gauge

July 25, Henwick to Malvern Link opened (6 miles), Worcester & Hereford Railway

July 30, Grange to Banff and Port-

soy opened (19 miles), Banff, Portsoy & Strathisla Railway

August 2, Torre to Paignton opened for passengers (goods April 1, 1861) (3 miles), Dartmouth & Torbay Railway

August 3, Stoke to Congleton Upper Junction, via Biddulph, opened for goods; passengers not until 1864 (12½ miles), Congleton Lower Junction to Brunswick Wharf (goods only) (1 mile), North Staffordshire Railway

August 31, Llandidloes to Newtown opened for passengers (12½ miles) (goods April 30, 1859), Llandidloes to Newton Railway

September 1, Thorne to Keadby opened (9½ miles), South Yorkshire Railway

September 19, Barnt Green to Redditch opened for passengers (4½ miles) (goods October 10), Redditch Railway. Worked by Midland Railway

October 10, Horsham to Petworth opened (17½ miles), Mid Sussex Railway (L.B.S.C.R.)

November 7, Castle Douglas to Dumfries opened for passengers (19½ miles) (goods November 3), Castle Douglas & Dumfries Railway

November 7, Rugeley to Cannock opened for goods (7½ miles), Cannock Mineral Railway (leased to L.N.W.R.)

December 1, Summer Lane to Barnsley opened for passengers (1 mile) (goods February 12, 1857), Manchester, Sheffield & Lincolnshire Railway

December 1, Chollerford to Countess Park opened (9 miles), Border Counties Railway

December 2, Banchory to Aboyne opened (15½ miles), Deeside Extension Railway.

Hawkes Rules in India

Earlier this month, when two students were caught at Motihari travelling first class with third class tickets there was a riot and 12 people were injured.

Pulling the alarm chain, ticketless travel, and assaulting railway staff have become national sports in India. Alarm chains are pulled 118 times a day on an average.

During the past three months, on the Central Railway alone, £130,000 in fines has been exacted from passengers caught travelling without a ticket. Ticketless travel is most popular in Bihar where, as often as not, one may be the only passenger with a ticket in the compartment. On the "Deccan Queen" from Bombay, however, it is non-U to wangle a free ride.

All over India many peasants ride on trains as they would on bullock carts in between seasons when there is nothing much to do at home, and they would be shocked at the thought that they should pay.

Chain-pulling is such a scourge that the railway authorities have been thinking of removing the alarm chains from all but upper-class carriages. Indian travellers have learned that one gets on the train at the station; they

still have to learn that stations are also meant for getting off; too many of them find pulling the alarm chain such a convenience—it makes it possible for the train to stop right in front of their destination.

Indian trains are not only a public utility—they are also a means of expressing political dissatisfaction. Chains get pulled in protest against linguistic policies, increase in the cost-of-living index, in support of cow protection, or in protest against the Government's policy for resettling East Pakistan refugees. Between chain-pulling and ticketless travelling it is a miracle that the Indian railways still run at a large profit.—Abridged from "The Manchester Guardian."

Hogmanay Affects Home Rails (1898)

A dealer in the Home Railway market suggests that the reason Scotch Rails refuse to respond as they should to improved conditions is that Glasgow operators have been too strong bulls of whisky. He has hopes, however, that after the New Year festivities Scotch whisky statistics will be much more favourable, showing a great decrease in available stocks, and that this will cause a sympathetic improvement in Scotch Rails.—From "The Financial Times" of December 17, 1898.

Destination Unknown

Extract from a letter received by the Port Manager, Dar es Salaam: Obituary notices of all staff in Group "B" and above and all Group "C" staff with 20 years' service or more will, in future, be published in the Staff and General Notice. Notification . . . should be made giving the following information: Full name, destination, number of years' service.

Reply by Port Manager: Query re: "Destination." After 20 years or more of faithful service surely the "Destination" cannot be in doubt.—From "East African Railways & Harbours Magazine."

Fame is the Spur

(See our issue of December 5, 1958)

Oh, no, A.C.P.,
I do not agree
With your views on reviving the past.
The man who can claim
A background of fame
Is the worker who stays to the last.

A pride in one's line
Is the healthiest sign
Meaning nothing disloyal or sinister;
Moreover, to strive
The old names to revive
Is the wish of Her Majesty's Minister.

So of "G.N." I'm proud
And will shout it aloud:
It cannot be "ground in the mill"
If each works with zest
Making his line the best
B.R. will be glorious still.

A. V. D

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Conference with State Chief Ministers

At a conference of Chief Ministers of various States with the Railway Minister it was agreed that full co-operation and co-ordination would be maintained between the State Police and the Railway Protection Force in combating crime on the railways.

The need was recognised for developing, by railway construction, certain backward and other areas, and it was agreed that when the Third Plan was being drawn up, this need would be kept in view, though everything would depend on the size of the Third Plan and the funds available. The State Governments were advised that in the larger national interest, fresh investment in road transport development could be profitably directed to opening up regions not served at present by railways, instead of duplicating transport facilities.

Claims for Losses in Transit

The total number of claims received for goods lost in transit between April and September, 1958, was about 20,000 and the railway authorities had to pay £675,000 in compensation. Measures taken to improve the situation include: (a) Careful study of claims received, with a view to analysing the causes for claims, pinpointing bad spots and bad practices, and taking preventive action; (b) spot checks at stations, marshalling yards, good sheds and parcel offices by inspectors; (c) training of staff in careful loading; (d) re-organising and improving the Railway Protection Force; (e) exchange of information between railways so as to co-ordinate claims prevention work; (f) organising campaigns to ensure correct packing, labelling, and marking of consignments; (g) maintain-

ing close liaison with the officials of the Railway Protection Force and the Railway Police; (h) double riveting of covered wagons in addition to locking; and (i) Railway Protection Force armed escorts for goods trains carrying valuable goods through unsafe areas.

Integral Coach Factory, Perambur

Against the planned procurement of 3,816 broad-gauge passenger coaches during the period of the Second Plan, a total of 1,822 coaches has been allocated to the Integral Coach Factory, Perambur.

The Deputy Minister of Railways, Mr. Nawaz Khan, has stated that no timber has been imported by the factory.

Railway Out-Agencies

The Railway Board has requested all railway managements to adopt a more liberal policy as to the opening of new railway out-agencies. Twenty-eight new out-agencies were opened during the three years ended March, 1958, and applications from others have been under consideration.

SOUTH AFRICA

Air-Conditioned Dining Cars

The first two sets of air-conditioned dining and kitchen cars, part of an order placed by the South African Railways with Wegmann & Company, Kassel, West Germany, last year, have been delivered and will be placed in service on the "Blue Train" shortly. Nine sets of dining and kitchen cars were ordered at a cost of £485,131. Besides the "Blue Train" between Cape Town and Johannesburg and Pretoria, they will be used on the "Orange Express" between Cape Town

and Durban, and also on other main-line trains between Johannesburg and Cape Town and Johannesburg and Rhodesia. Editorial reference to this stock was made in our issue of April 18, 1958.

EAST AFRICA

Concession Fares

A new concession fare was introduced by E.A.R. & H. on January 1. From that date groups travelling together for an approved educational purpose, may travel first, second, or third class at three-quarters of the ordinary single fare for a return journey, if under 16 years of age, or, if the members of the party are aged 16 or over, at the ordinary single fare and one-half for the return journey. Parties must consist of at least eight members travelling first or second, or at least 16 travelling third class.

LEBANON

Restoration of Services

Despite the resumption of normal life after disturbances, only one passenger service is operating in the country: a daily railcar between Beirut and Aleppo, in Syria. The line south from Beirut to the Israel border remains derelict. Further damage has not been repaired. Freight trains are running again to Baalbek, and a goods train runs up to Ras Baalbek, with equipment and supplies for the winter sports hotels in the region.

VICTORIA

Express Freight Service

The Government Railways has increased its new express freight service, which runs from Mildura district to Melbourne. The service started on October 13, with three trains a week, to provide fruit and vegetable growers with the means of marketing their produce the day after picking. It has now been extended to four trains.

An example of the speed of transit and prompt delivery of fresh fruit and vegetables at the market was provided recently when the express from Mildura arrived in Melbourne at 2.45 a.m. The wagons were placed in the perishables shed at 2.54 a.m. and the produce was in the hands of merchants at the Victoria Market, Melbourne, before 5.30 a.m.

Elimination of Level Crossings

Lowering of the tracks for the elimination of level crossings at Nepean Highway and South Road, Moorabbin, was recently completed. The overpasses at Moorabbin involves the construction of new station buildings.



The first of the new air-conditioned dining and kitchen/staff car sets of South African Railways at Johannesburg. This set will be placed in service on the "Blue Train"

passenger platforms and a footbridge to the station, as well as bridges at Nepean Highway and South Road. One of the two overpass bridges at Nepean Highway is completed, and a temporary road bridge provided to enable road traffic to be diverted and permit construction of retaining walls to proceed. The footbridge to give access to planned new station buildings is almost finished and is being used.

CANADA

C.P.R. Dividends

A final dividend of 2 per cent on the preference stock has been declared by the Canadian Pacific Railway in respect of 1958. A final dividend of 75 cents a share has been declared on the ordinary capital stock.

C.N.R. Revenues

Although suburban passengers represented 37.4 per cent of all passengers carried by the Canadian National Railways in 1957, they contributed only 3 per cent of total passenger revenues. C.N.R. passenger revenues rose 2.1 per cent in 1957 to \$46.8 million but nearly four fifths of the railways operating income came from freight revenues which earned \$587.3 million.

BRAZIL

Reduction in Railway Staff

The staff of the incorporated railways was cut by 3,000 in 1957 and was due to be reduced by a further 2,500 during 1958. The wages bill to September 30 last was 265,500,000 cruzeiros less than the estimate, while revenue was 780,400,000 higher than at the same date in 1957.

Cost of Locomotive Imports

Dr. Renato Feio, President of Rede Ferroviária Federal (R.F.F.), has told a Parliamentary committee of enquiry that the 195 diesel-electric locomotives, purchased for account of the Eximbank loan, could only be acquired in U.S.A. Tenders were not invited, but the prices obtained were lower than those offered by American manufacturers when tenders were called for in 1957. The 900-h.p. diesel-electric type "C," locomotives, were quoted 10 months earlier at U.S.\$186,197 and U.S.\$185,510, c.i.f., by International General Electric and American Locomotive respectively. They were actually purchased at U.S.\$168,000, f.o.b., plus U.S.\$6,100 for freight, 50 per cent of which was paid in cruzeiros.

The entire order was scheduled for delivery in 1958 and the loan will be repayable in 26 half-yearly instalments, commencing in three years time, with interest at 5 per cent. The Japanese manufacturers demanded 10 per cent in cash and final payment within 10 years.

Replying to a question by the committee, Dr. Feio stated that he had no official knowledge of the alleged offer

by representatives of the Japanese firm Hitachi in 1957 to build a locomotive factory in Brazil, provided that they secured the order for the 10 locomotives then tendered for and the additional 160 units under consideration, payment to be 20 per cent below the American quotations.

Electrification

The electrification programme for 1958 provided for conversion of the following sections to be completed by the end of the year: Rede Mineira de Viacao, Barra Mansa to Angra dos Reis, 25 miles; V.F.F. Leste Brasileiro, Salvador to Conceicao da Feira, 30 miles; Parana-Sta. Catarina Railway, Veu da Noiva to Paranagua, 42 miles.

ITALY

New Electric Locomotive

The first of a new type of electric locomotive of 4,000 h.p. for the 3,000-V. d.c. system has undergone tests before being delivered to the State Railways. It develops a maximum speed of 87 m.p.h. The builders are Tecnomasio Italiano Brown Boveri, of Vado Ligure, Genoa, which has received an order for 37 locomotives.

Car Hire Service

The first self-drive car hire service in the country on a nation-wide basis has been started in conjunction with the State Railways. Passengers travelling to any one of 50 stations in Italy can arrange for a motorcar to meet them on arrival.

The car hire company, Autoservizi Maggiore, owns 500 motorcars in nine different cities, which will be available for the new service. This will also be available to travellers arriving from abroad or leaving Italy. A passenger by rail from London to Florence, for example, can arrange through the railways to have a self-drive car waiting for him at Florence Station. When he has finished using it he will be able to return the car at any one of the 50 railway stations in Italy.

FRANCE

Reconstruction of Ners Bridge

One of the results of the floods in the Gard area of the Rhône Valley, recorded in our issue of December 5, 1958, was the partial destruction of the Ners bridge on the Nîmes-Alès line. On the Alès side of the River Gard, the first abutment common to both rail and road collapsed, carrying away the first two spans. Temporary replacement for the rail bridge was effected by the Army, and preparatory work began on October 2. It was decided to build up a 150 ft. Bailey-type metal span, section by section, on the far bank. Each section was moved on diplory trolleys towards the breach, where they were bolted together and mounted on rollers, and subsequently propelled across the gap. A new support was

built up on the damaged abutment to provide intermediate strength, whilst a base to receive the end of the new span was constructed on the river bank. Finally, the complete span of 170 tonnes was pushed into position by a diesel locomotive, this operation being completed on October 18; subsequently, the span was lowered by jacks to the correct level. To provide additional safety, a 78-ft. auxiliary girder weighing 42 tonnes was placed on the last undamaged span to give additional stability. It will now be possible for permanent repairs to be carried out without interference to rail or road traffic.

Under-river Electrification Cable

In electrification of the Paris-Metz line at 25,000 V., a.c., it was necessary to carry an electric cable across the River Moselle at Ars, where the four-track line crosses the river on two metal bridges. Because damage was likely to be caused to the cable if it was carried on the bridges themselves, it was decided to arrange an under-water crossing. To ensure that the cable was sunk at a sufficient depth below the river bed, and adequately protected, a new method, patented by Alnwick-Harmstoff of Hamburg, was successfully used.

Apparatus on the river bed, and operated from vessels on the surface, opened a trench of 4 ft. 11 in. minimum depth in the river bed. The spoil was temporarily removed by high-pressure water jet. Simultaneously, a 2½ in. x 3 in. dia. plastic pipe was sunk into the trench. Subsequently, with a steel wire previously inserted in the pipe and a special winch, the electric cable was pulled through the pipe from one side to the other of the river. Besides providing a high degree of security, the pipe will enable the cables to be charged if necessary.

WESTERN GERMANY

High Speed Tests

Gradual attainment of speeds of 124 m.p.h. (200 km. p.h.) is the object of tests recently concluded on the Freising-Langenbach section of the Federal Railway by the O.R.E. (Office de Recherches et des Essais), an organ of the International Union of Railways (U.I.C.). The test train so far has developed speeds of up to 103 m.p.h. Provision is being made for high speeds on the lines recently, or now being, electrified.

SWEDEN

Stockholm-Göteborg Doubling

The doubling of the last single-track section of the Stockholm-Göteborg main line was completed recently. This has resulted in a considerable increase in line capacity. The line is electrified throughout. Fast trains now average 62 m.p.h. attaining 80 m.p.h. Doubling began in 1937.

Aluminium Refrigerator Wagons on C.N.R.

Comprehensive test programme on experimental stock ; weight saving of over 20 per cent achieved



An all-aluminium C.N.R. refrigerator wagon in preparation for test with sandbags to simulate the meat-rack load.

FIVE prototype refrigerator wagons of all-aluminium construction, now in experimental use with Canadian National Railways, have been built by the National Steel Car Corporation Limited, Hamilton, Ontario. The design is by C.N.R. in conjunction with the Aluminum Company of Canada. It is the outcome of maintenance and corrosion troubles experienced with conventional wagons and attributable to the brine solution used in the cooling systems. This is believed to be one of the first applications of aluminium on such a large scale. Its use in refrigerator wagon construction has been mainly limited to applications such as roofs, interiors, and in one experimental case, exterior sheets.

Riveted and Welded Frame

Special features include a composite riveted and welded aluminium under-frame; an all-welded aluminium floor with a curved inside sill section to facilitate thorough cleaning; and aluminium brine tanks equipped with drain tubes leading to air-tight drain traps to feed overflow directly from the wagon. Two of the wagons are provided with an improved type of aluminium meat rack.

Except for the bogies, charcoal heater, door and hatch hardware, and certain safety equipment, all parts of the wagons are of aluminium, which has resulted in each being some 22.5 per cent lighter in weight than those previously operated by C.N.R. This repre-

sents a saving of about 7 tons a wagon, reducing rolling resistance and promising economies in operation.

The five prototype units are being

subjected to a programme of tests stated to be more extensive than any previously carried out in North America, which are expected to eliminate the customary service testing requirements by the Canadian railways of five to ten years on new rolling stock.

Built-in Strain Gauges

Four of the wagons are in regular service with the C.N.R. and their performance under normal service conditions is kept under close observation. The fifth wagon was equipped with strain gauges during construction and is currently being prepared for a static road test, the first of a series of four tests. Strain-gauge readings and deflections will be recorded for various conditions of the road, both on the meat rack and on the floor. Other tests to be carried out include a road test where strain-gauge readings will again be used to indicate the stress levels encountered on the wagon during operation; a fatigue test will be undertaken and reproduced by the Alcan research affiliate, Aluminium Laboratories Limited, at Kingston, Ontario; and finally there will be a series of impact tests.

On completion of the tests, the analysis of the results will be compared with the stress analysis which preceded the design, thus enabling any weakness or excessive strength to be corrected in future wagons.



Lightweight sections of inner frame under assembly by National Steel Car Corporation Limited. Separation from outer frame is by wood beams and solid insulation

Gauge Conversion to Relieve Indian Main Line

Proposed widening to 5-ft. 6-in. gauge of Trans-Gangetic metre-gauge lines to increase traffic capacity from coalfields to the North

TO relieve the broad (5-ft. 6-in.) gauge Grand Chord line of the Eastern Railway, which conveys heavy traffic between the coalfields and steel-works in Bengal and Bihar, and the port of Calcutta, on the one hand, and places in Northern India on the other, Mr. A. K. Chakravarti, Deputy Director, Civil Engineering Efficiency Bureau, Indian Railway Board, advocates the conversion from metre- to 5-ft. 6-in.-gauge of the North Eastern Railway line on the north bank of the Ganges from Barauni via Chupra, Gorakhpur, Gonda and Burhwal to Lucknow, also that of the Burhwal-Sitapur line. This is expected to relieve "the most congested route in India today" from the coalfields around Asansol via the Grand Chord double line to Gaya and Moghalsarai. It is also calculated to relieve the largest marshalling centre, Moghalsarai, and lines beyond it to Allahabad, Kanpur, Lucknow, and Shahjahanpur, for Moradabad and the Punjab. The relative distances from Asansol to Shahjahanpur are given as 607 miles by the proposed route via Barauni and 581 via Moghalsarai.

This plan, besides involving the conversion of about 400 miles of metre-gauge line to broad gauge, would entail new bridges throughout, including those over the great rivers Gogra and Gan-

dak. The existing one over the former consists of 17 or 18 spans of 200 ft., say $\frac{3}{4}$ mile long, and that over the Gandak would also be a very large undertaking. No estimate is given of the cost, but it would undoubtedly be very high. Apart from bridges, construction would be over the Gangetic plain.

Alternative Relief Line

Construction has been suggested in other quarters of a 40-mile broad-gauge link from Untari Road, on the Daltonganj loop line, to Churk, terminus of the branch from Chunar, on the Moghalsarai-Allahabad main line, to give substantial relief to the Grand Chord and Moghalsarai. This would also give a more direct outlet from the most rapidly-developing coalfields, such as Bokaro, Karanpura, Daltonganj and possibly Tattapani (just in Madhya Pradesh), as well as from the Tatnagar area and new developments south-east of Ranchi, to Allahabad and beyond.

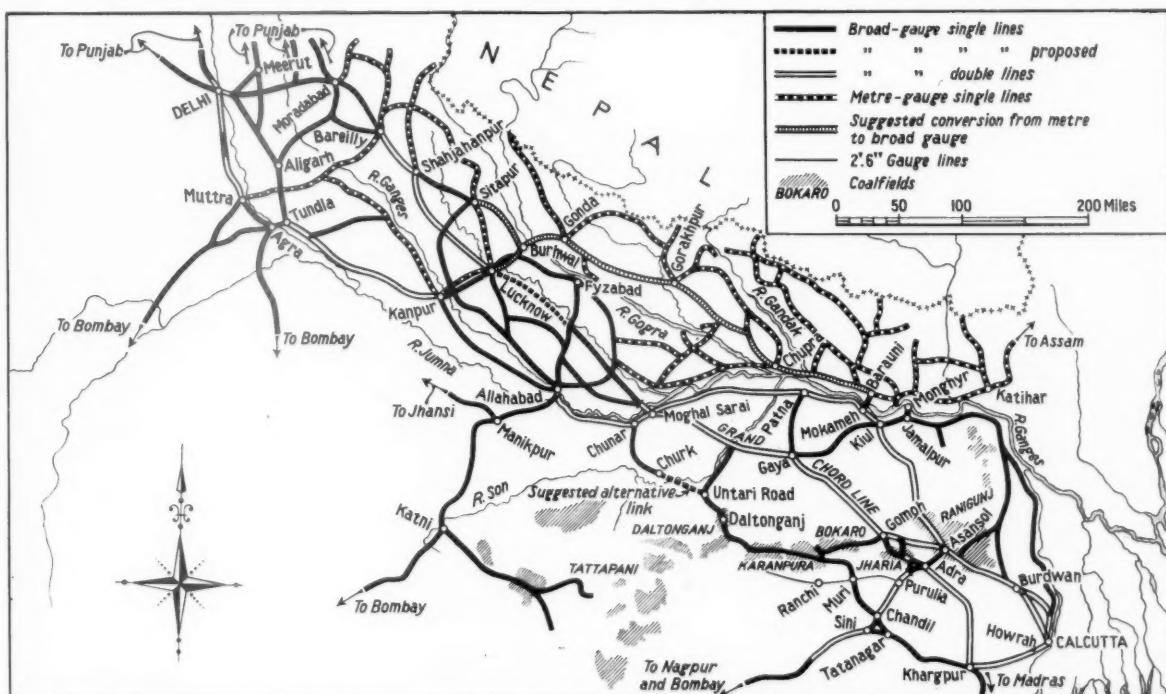
A new through route would then be provided from Asansol via Adra, the Daltonganj loop, the new link, the Churk branch, and the double line thence to Allahabad. Onwards there are multiple routes available to Kanpur (Cawnpore), Lucknow, and Shahjahanpur. Although the River Son would

have to be bridged, the construction of the new link should not otherwise be costly. Presumably the Daltonganj loop and Churk branch would have to be brought up to a higher standard, but the cost of this and of the 40-mile construction should be very far from approaching that of the 400-mile conversion. The overall distance via Daltonganj between Asansol and Shahjahanpur should be under 600 miles, and the distance to the great industrial area of Kanpur should be considerably shorter than via Barauni. Introduction of C.T.C. is reported to be under consideration for several lines in the Ganges valley.

Electrification

Electrification of the Grand Chord line at 25 kV., 50 cycles, now in progress, is expected to ease the strain on that section.

Increase of line capacity through improved signalling, additional or extended running loops, and C.T.C. is expected to meet all probable traffic requirements for some time to come. Increased throughput of traffic would result from introduction of diesel traction west of Moghalsarai, more particularly for goods trains. This would not prejudice extension of electrification, as diesel locomotives displaced could be transferred elsewhere.



Broad- and metre-gauge lines in the Ganges valley, showing proposed new construction and conversion from metre- to broad-gauge to relieve existing broad-gauge route from Bengal and Bihar to the North

Power Signalling at Interlaken

New layout necessitated by increase in traffic

THE privately-owned lines in Switzerland, like the Federal Railways, have gone far in installing newly-developed signalling equipment, some of which has been described in various issues of this journal. A further example is the relay interlocking brought into service last year at Interlaken West Station, on the branch from Spiez of the Berne-Lötschberg-Simplon line, the property of the Berner-Alpenbahn Gesellschaft. We are indebted to the Assistant Engineer of the company, Mr. Isler, for permission to publish the following particulars, based on an article in the *Schweizerische Bauzeitung* by Mr. Ernest Kuhn, of Integra A.G., the suppliers of the installation.

The line connects a short distance further on at the East station with the

Federal Railways metre-gauge Brünig route via Meiringen to Lucerne and thus forms in effect a through line of some importance. Steady increase in traffic of recent years made it essential to improve facilities at Interlaken where the track layout is a little awkward to work.

The goods sidings are on the west, where the facing points on the single line from Spiez and Därligen are about 1,000 yd. from the station itself and connected to it by two running lines, each signalled for movements in either direction. On the east are the platform lines with some sidings and the connection via another piece of single line with the East station. Before the present installation was made the signalling was very

simple in character, consisting of a small Siemens type power frame controlling the two outermost sets of points, with motor operated starting, home and distant signals, two shunting control signals and, of course, the necessary point detection and proving arrangements. All remaining points were locally worked by hand, making it difficult to deal expeditiously with the traffic, even with the aid of a numerous staff.

New Layout

The present arrangement of lines and signals is shown on the accompanying diagram. There are 27 sets of points, and four derailleurs operated by triable electric point machines, the points having the toggle type lock usual in Switzerland. Points Nos. 1 and 45 at the ends of the approach single line sections have

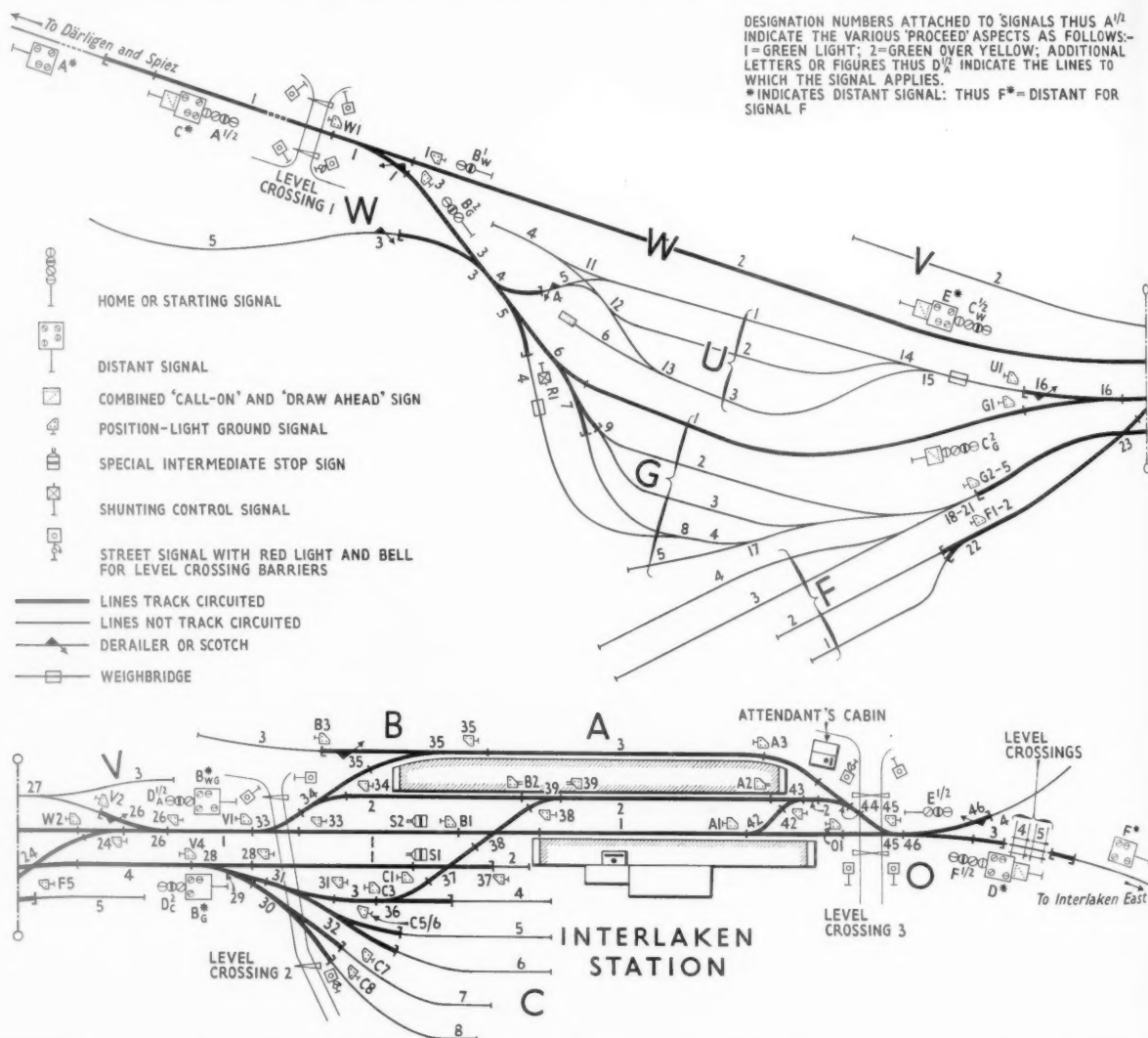
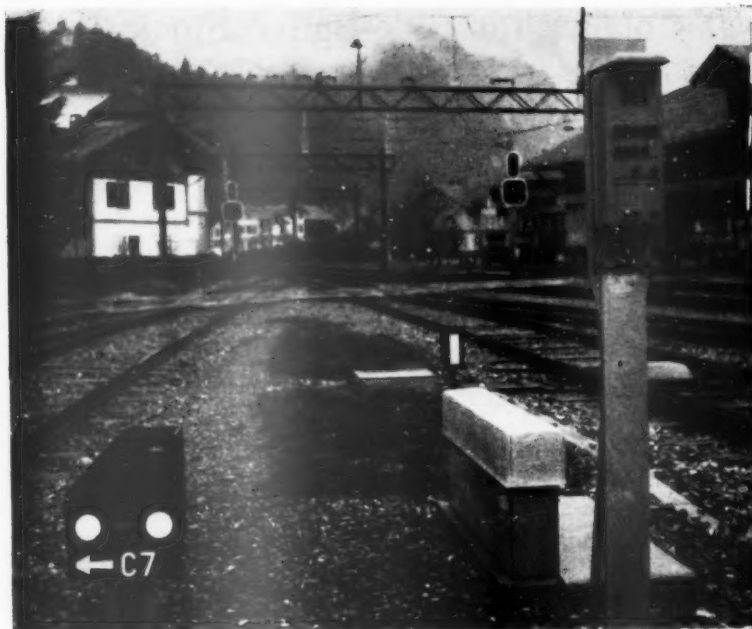


Diagram of power signalling installation at Interlaken West Station, Berne-Lötschberg-Simplon Railway



Position-light ground signal with, on right, cable terminal box and shunter's describer pillar. In background, two starting signals

additional detecting contacts to supplement the proving given by the point machines themselves. There are a few hand-operated electrically-locked points in the goods sidings, released from the central panel and electrically proved for running movements which they protect or for shunt movements authorised by ground signals. One or two sets of points in unimportant tracks remain entirely hand controlled.

The running signals, of the multi-lens colour-light type, with separate home and distant groups of aspects, combined as required, display the indications standardised for all Swiss lines. The layout is effectively divided in two longitudinally, which enables, say, a train arriving from Därligen to be brought forward to clear the facing points when no platform line is ready for it. An outgoing train can then be dispatched.

Home signals have a reserve red aspect and, lower down on the post, a "call on" sign of five small yellow lights displayed horizontally, advising the driver that the line ahead is occupied. The use of railcars, more than one of which can occupy a platform line, renders this facility essential. Should it be impossible to clear a home signal a train can be brought past it cautiously by a "draw ahead" sign of five small yellow lights set at 45 deg.

As it is not always desirable that westward movements into lines 1 and 2 should go beyond about the end of the platform between lines 2 and 3 special stop signs, S1, S2, are carried below the traction standards. When these show a horizontal row of white lights no movement may pass them but when dark they are without significance. Save a few unimportant ones all shunting movements are controlled by three-

aspect position-light ground signals with full interlocking controls, dispensing with the point indicators generally used in Switzerland. Use of three aspects is found much to facilitate shunting. Signals in the areas marked C, F, G, and U are switched out at quiet periods to economise power and lamps; no routes can then be set up on these lines.

Track Circuiting

The principal tracks are equipped with continuous track circuiting, divided as shown on the diagram, with sec-

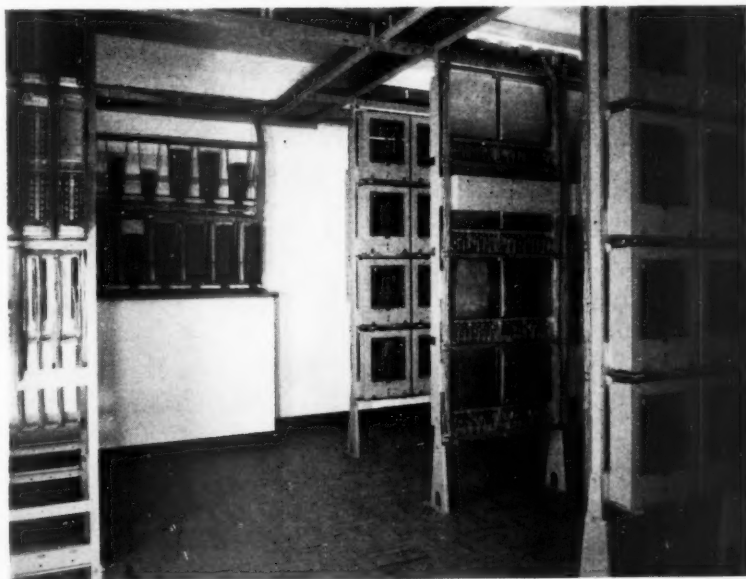
tional route release facilities, local point locking, control of signal aspects, etc. (To clear a signal to an occupied line, requiring the "call on" sign illuminated, a special operation at the control panel is required.) There are five level crossings, one of which was already unattended. Nos. 1, 2 and 3 now have electrically operated lifting barriers with red warning lights and bells; all can be controlled from the panel, but the traffic over No. 3 crossing is so heavy in the season that an attendant is essential, who closes the barriers on an order from the station, but with regard to the street traffic requirements.

Half-barriers are used at this location so as to facilitate closing. Crossings 4 and 5 already had electric barriers, now arranged for automatic operation. No proceed signal can be shown unless all barriers concerned are proved to be lowered.

Panel

The panel, in the station supervisor's office, is 7 ft. 6½ in. long and nearly 2 ft. wide. It is constructed on the unit or "domino" principle, by which any layout can be made up as required. A route is set up by operating two buttons and when set and locked becomes illuminated in white: an occupied section is lighted in red. A very complete set of lamp indications for repeating signals, controls, electric releases and block working also is provided, with audible failure warnings for certain functions. In the relay room the various relay groups are mounted on frames and connected by neatly-run wiring. Main cabling is of the paper insulated, lead covered and armoured multi-core type, laid in concrete troughing at ground level which, although more expensive than laying in the ground in the usual

(Continued on page 15)



Interior of relay room, showing cable terminations and racks carrying plug-in type relay groups

Automatic Central Coupler for Side-Buffer Stock

*Accommodation of lateral and vertical misalignment :
provision for coupling to existing three-link drawgear*



Draft simulation rig for coupler testing. Horizontal jacks apply the draft load and radial jacks the misalignment loads

FIFTY mineral wagons of British Railways have been fitted for marshalling yard and running tests with the automatic centre coupler designed and constructed by Dowty Hydraulic Units Limited. A further 50 couplers have been ordered for tests on other types of wagon. The Dowty Automatic Central Coupler is designed for fitting, without structural alteration, to any existing type of side-buffer wagon. It provides for simultaneous automatic connection of the vacuum

radius. Gathering horns guide the two half-couplings together as the wagons meet, and a maximum misalignment of 7 in. from centre in any direction can be accommodated.

Action of Coupler

The diagrams show in plan view the action of the main coupling latches. The latch pivots are set at 90 deg. to each other. The latch in each half-coupling is spring-loaded by a compression spring which holds it in the

ing pawl and pushes the right-hand latch out of engagement, so as to part the coupler.

The uncoupling lever for the left-hand latch is placed on the opposite side of the coupling. This permits uncoupling from either side of the wagons.

If during shunting operations, the coupler is required to remain free, the uncoupling lever is dropped into a gate. In this position the latches are prevented from engaging by the pawl shown in Fig. 2.

The gathering horns, which pull the two halves into alignment during closure, are fabricated from steel pressings and the latches are heat-treated steel castings. Each half-coupling is attached to the standard British Railways type drawgear by a pivot pin for articulation.

Vertical Misalignment

To accommodate, during closure, coupling movement due to vertical misalignment, the upper end of the pivot pin is anchored in a spherical bearing. The weight of the coupling is carried by a compression spring attached to the lower end of the pivot by a spherical rubber joint.

Rubber in this joint is pre-tensioned to provide a centring action in the horizontal plane.

When a wagon fitted with the automatic coupler is to be coupled to a wagon fitted with the conventional three-link coupling the automatic

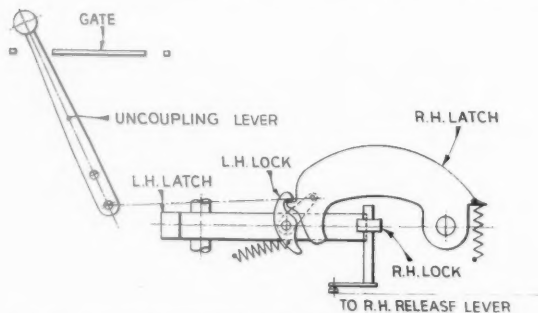


Fig. 1—Coupled position. Right-hand latch locked in engaged position by semi-rotary lock

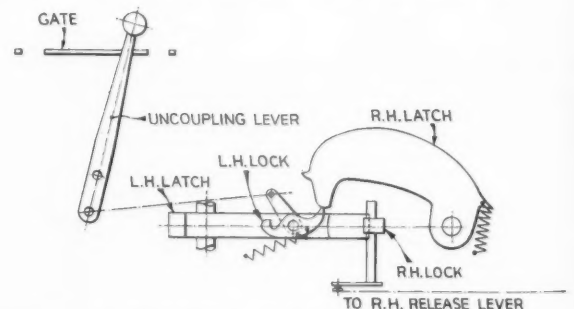


Fig. 2—Couplers about to part. Left-hand lock rotated to disengage right-hand latch

brake hose. For operation with vehicles not so fitted, provision is made for connection with three-link drawgear.

A combined study by British Railways and Dowty Hydraulic Equipment Limited of working conditions in private sidings and in marshalling yards showed that 16-ton mineral wagons fitted with the automatic coupler would be required to couple on curves of 2-ch. radius, and coupled wagons to negotiate curves of 1-ch.

engaged position. The impact surface of each latch is in the form of a ramp which allows the latches to pivot and slide until the two hooks are engaged.

As shown in Fig. 1, the right-hand latch is locked in the engaged position by a spring-loaded semi-rotary lock on the left-hand latch, and vice-versa. This lock, in the form of a pivoted double-end lever, is also used to release the coupling as shown in Fig. 2. Operation of the uncoupling lever, positioned on the side of the wagon, rotates the lock-

coupler is swung through 90 deg. to present the standard drawhook. A locking detent holds the coupler in this offset position.

Vacuum Brake Connection

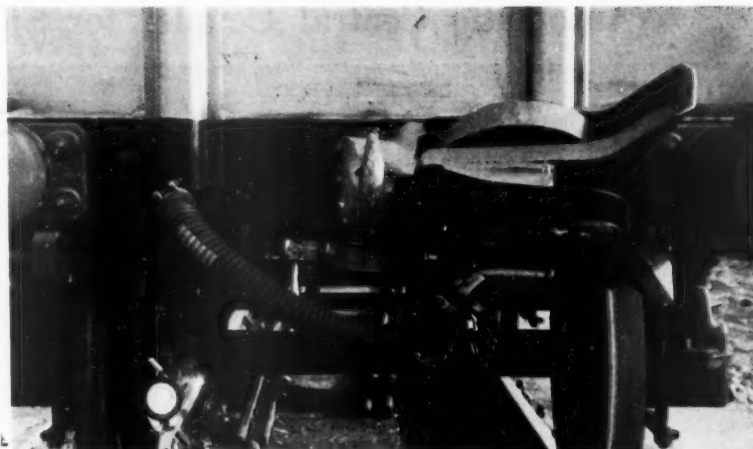
The vacuum pipe connection is attached to the underside of the coupler, on the vertical centre line. A rubber face joint is used for sealing and the connection is made automatically as the coupler closes. In the running position a closing force is applied to

the joint by two rubber blocks, which ensures that the joint is held square irrespective of coupling movement. For use without the automatic coupler the hose is provided with a quick-release socket, and the usual dummy connector is also fitted for sealing the hose in the parked position.

Testing

The life of the coupler is designed to be not less than the average life of the wagon. It is claimed that no adjustment, lubrication, or other maintenance is required. Besides the field testing by British Railways a continuous test programme is being carried out at the makers works at Ashchurch. The testing site was described in our issue of November 21, 1958. During prototype testing six pairs of couplers were subjected to 5,000 coupling operations at speeds up to 15 m.p.h. and with continuous coupling and uncoupling tests on curves down to $1\frac{1}{4}$ ch. radius. On the draft simulation test rig a drawbar load of up to 125 tons can be applied for static tests.

For wear testing in severe misalignment conditions the drawbar is loaded and a series of hydraulic jacks then apply continuous oscillating vertical and side loads to one half of the coupler. The frequency and pattern



Coupler in parked position to permit use of standard drawhook

of the loading is identical to that encountered in service up to speeds of 65 m.p.h.

The severity of this testing is periodically increased by the spraying of sand and water over the coupler. During all testing a constant record is maintained of the efficiency of the vacuum pipe sealing.

In its present form, with provision for accommodating the three-link coupling and standard drawhook, each coupler weighs 400 lb. When provision for the three-link coupling is no longer needed, the automatic coupler will be simpler in design, and lighter. Achievement of these characteristics is the object of studies now in progress.

Power Signalling at Interlaken

(Concluded from page 13)

style, enables inspection and alterations to be more readily effected. Power is taken normally over transformer sets from the 15,000 V. $16\frac{2}{3}$ cycles, a.c. trac-

tion supply, with automatic changeover to the local network, 380 V. a.c. 50 cycles. All main and group fuses are of the alarm contact type by which audible warning is given should one become blown. The intensity of the signal lights is reduced by 20 per cent. after night-fall and during the night when there is

no traffic the entire installation is switched out.

A system of describers, combined with two-way loudspeakers and telephones, on the Gfeller system, connects the shunting staff and train crews in the yard with the person on duty at the panel, with other circuits connecting with the booking office and other parts of the station, etc. The telephone apparatus has been provided by the firm of Albiwerk.

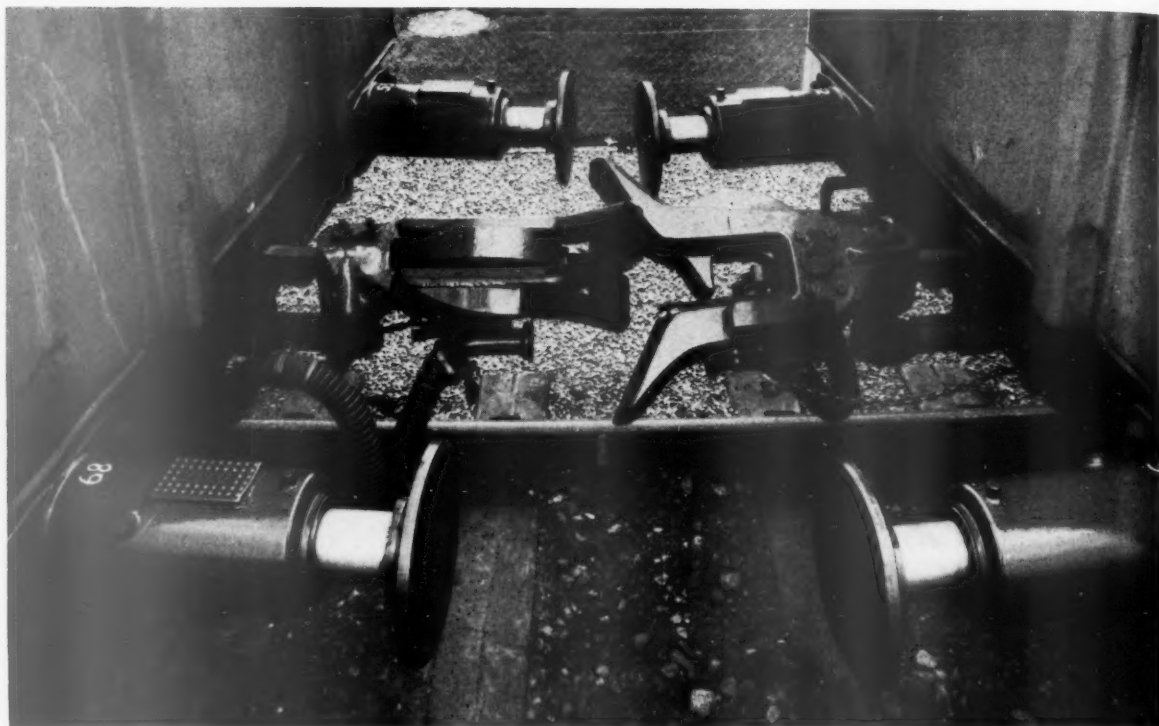


Unit construction, or "domino" type desk panel in stationmaster's office working on the route-setting principle

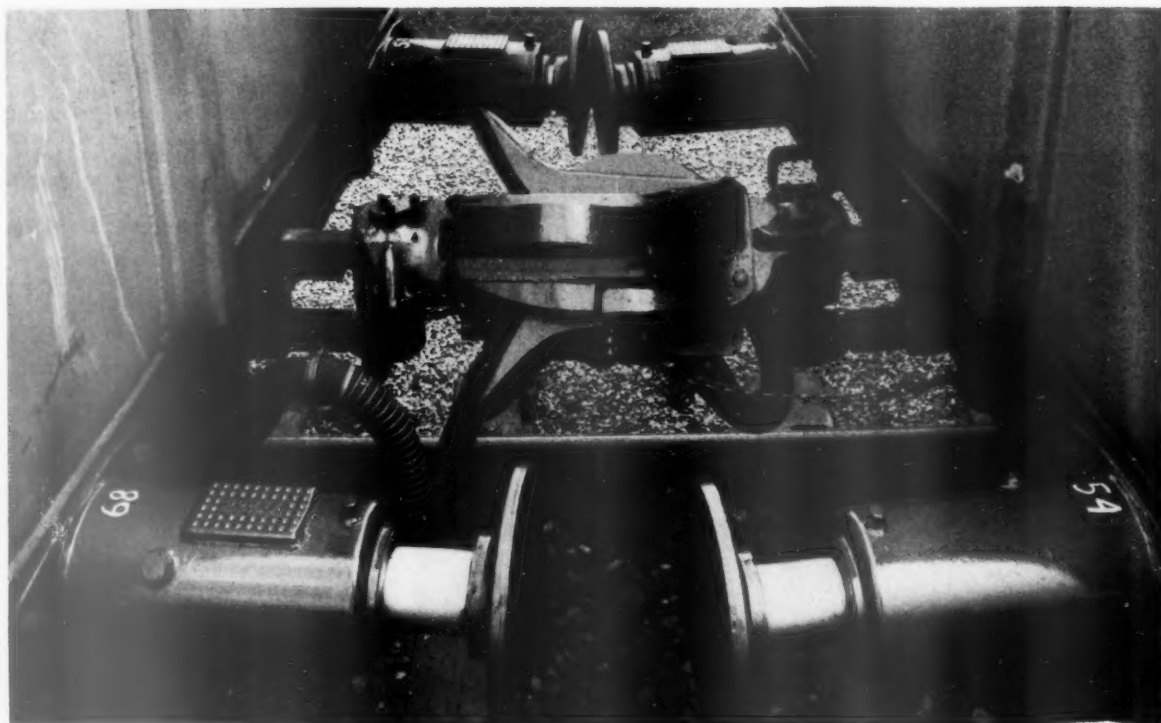
NEW CAR PARK FOR HARROW-ON-THE-HILL STATION.—A new car park for 47 motorcars has been opened by London Transport at Harrow-on-the-Hill Station. There is now room for 107 motorcars at the station. The new park has been laid out on a piece of land by the Lowlands Road entrance to the station and adjoins the station approach, which is already used as a car park.

HOLIDAY FILM SHOWS AT LIVERPOOL STREET.—To help those who are planning their summer holidays, the Great Eastern Line of British Railways, Eastern Region, has arranged a series of free holiday film shows in the Gymnasium at Liverpool Street Station, at the foot of the West-side taxi approach ramp. The shows, which began on January 1, are being given each Thursday until April 16, with a different programme each week. The films, in full colour, depict country and seaside resorts all over Britain. Programmes run from 1.10 p.m. until 1.50 p.m. to suit those who work in London or who happen to have some time to spare when passing through the station. Tea is on sale during the performances.

Automatic Central Coupler for Side-Buffer Stock



Coupler about to engage. On the right-hand pivot is the centring joint



Engagement on curve of $1\frac{1}{2}$ ch. radius. Standard drawhook on left. Note extent of lateral misalignment accommodated, shown by angle of buffers

RAILWAY NEWS SECTION

PERSONAL

Mr. R. M. Banerjee, Senior Personnel Officer, North Eastern Railway of India, has proceeded on retirement leave.

Mr. A. E. Moyle, A.M.Inst.T., Assistant Chief Traffic Manager (Operations), Perth, Western Australian Government Railways, who, as recorded in our December 26 issue, has been appointed

Mr. R. W. H. Seymour, Stores Superintendent, Malayan Railway, has retired.

The Hon. Anthony G. Berry retired from the Western Area Board of the British Transport Commission at the expiration of his term of office on December 31, owing to increased newspaper responsibilities. He has been succeeded by Mr. Cecil W. Rodd, Chairman of T. Wall & Sons Ltd.

Mr. C. W. King has succeeded Mr. Taylor Thompson as Chairman of British Railways Civil Engineering Committee.

Mr. V. T. Narayanan, Divisional Superintendent, Alahabad, Northern Railway of India, who, as recorded in our December 12 issue has been appointed Chief Commercial Superintendent, Eastern Railway of India, graduated in Economics from the Presidency College, Madras, in



Mr. A. E. Moyle

Appointed Chief Traffic Manager of the Western Australian Government Railways



Mr. V. T. Narayanan

Appointed Chief Commercial Superintendent, Eastern Railway of India

Chief Traffic Manager, took up his new position on October 28. Mr. Moyle joined the railway as a clerical cadet in 1915, and was subsequently promoted through the Traffic-Branch grades as Clerk, Stationmaster, Train Control Officer, Senior Relief Officer and was eventually appointed as Stationmaster, Kalgoorlie, in 1946. During 1950, he was a member of a delegation sent to the British Railways to study general railway traffic and administrative procedures. On return to Western Australia, early in 1951, Mr. Moyle was appointed District Traffic Superintendent, Central District Headquarters, Northam and, in 1953, was promoted to be Assistant Chief Traffic Manager (Operations), Perth, the position he now relinquishes.

Mr. A. T. Mathews, Special Assistant (Personnel), in the Office of the Vice-President, Traffic, Canadian National Railways, has been appointed Assistant to the Vice-President (Traffic).

Mr. Gavin R. Ralston, Assistant Traffic Manager, Manchester Ship Canal Company, has been appointed Traffic Manager. Mr. F. Thornley becomes Assistant Traffic Manager, of the Manchester Ship Canal Company.

Sir Cyril Musgrave, Permanent Secretary to the Ministry of Supply since 1956, has been appointed Chairman of the Iron & Steel Board. He will take up his appointment on March 1, and will succeed Sir Archibald Forbes, who will relinquish the office to devote his time to his private business interests.

MR. GEORGE ROLLASON

On December 23, Mr. George Rollason, Deputy-Chairman of Tothill Press Limited, the company owning and publishing this journal, received a presentation from Mr. A. C. Duncan, the Chairman, on behalf of the company, to mark the completion of 50 years of service with Tothill Press Limited and its predecessor companies.

1934. Mr. Narayanan joined the Great Indian Peninsula, the following year, and worked in different capacities in the Operating Branch during the early years of his service. In 1943, he was appointed Secretary to General Manager for a short period and, two years later, organised a training school for the railway staff at Bina, where he worked for over three years. In 1948-49 he served as Divisional Operating Superintendent, Jhansi. In 1950 he became Deputy Director, Establishment, in the Railway Board. He was promoted to be Joint Director, Establishment, Railway Board, following its reorganisation, early in 1951, and held this position until 1956. During his service on the Railway Board he was Member-Secretary of the Joint Advisory Committee. He was also associated with the regrouping of Indian Railways. He was Divisional Superintendent, Northern Railway, first at Delhi, and, later, at Allahabad for two years before taking up his present appointment last October.



The late Mr. J. S. Nicholl

Chief Officer (Research & Charges) of the Road Haulage Executive, 1950-53

We regret to record the death on December 27, at the age of 70, of Mr. J. S. Nicholl, C.B.E., M.Inst.T., Chief Officer (Research & Charges), Road Haulage Executive, 1950-53, and Past President of the Institute of Transport. Mr. J. S. Nicholl was educated at Sutton Valence, and joined the office staff of Union-Castle Line in 1904. He subsequently served for a short period in Western Canada, as Office Manager to the Chief Engineer, Hudson Bay & Pacific Railway, later qualifying as a chartered accountant and practising in Saskatchewan and Alberta. During the 1914-18 war he served on the staff of the Auditor & Controller of the Imperial Munitions Board, Ottawa, and eventually he was appointed Deputy Auditor & Controller. In 1920 Mr. Nicholl joined Sir Maxwell Hicks, then Receiver & Manager of McNamara & Co. Ltd., and served as Chief Accountant until the reconstruction of the company in 1921, when he joined Maxwell Hicks and Company, Chartered Accountants, the undertaking managing McNamara & Co. Ltd., and was appointed Chief Executive Officer of the company. He became a member of the Transport Advisory Council at its inception in 1934, and, in 1938, he was a member of the McLintock Committee appointed to inquire into transport in Northern Ireland. During the 1939-45 war, Mr. Nicholl played an important part in the organisation of the road haulage industry, both on the Ministry of War Transport operational committees and on the Producer Gas & Alternative Fuels Committee, Ministry of Fuel & Power. He wrote a number of papers on road transport interest, and was awarded the Institute of Transport (Road Transport) Gold Medal for the 1934-35 session; he was President of the Institute of Transport for 1941-43. Mr. Nicholl was a member of the National Civil Aviation Consultative Council. At the time of his appointment as Chief Officer (Organisation & Development), Road Haulage Executive, in December, 1948, he was Vice-Chairman & Chief Executive Officer of McNamara & Co. Ltd. He became Chief Officer (Research & Charges), Road Haulage Executive, in 1950, and retired from this position in 1953.



Mr. R. J. Powell

Appointed District Operating Superintendent of the enlarged Nottingham District

Mr. R. J. Powell, District Operating Superintendent, Nottingham, Midland, London Midland Region, who, as recorded in our December 5 issue, has been appointed Operating Superintendent of the recently re-formed Nottingham District, began his railway career on the former Glasgow & South Western Railway in 1912, and was transferred to the office of the Superintendent of the Line at Glasgow (St. Enoch) in 1915. After service in the Royal Navy from 1916 to 1919, he returned to the same office and, in 1923, was transferred to the London, Midland & Scottish Railway's headquarters at Glasgow, where he held various appointments in the Divisional Control and the Divisional Trains Office. In 1939, Mr. Powell acted as Outdoor Assistant to the District Goods & Passenger Manager, Ayr, and, in 1944, was appointed Assistant District Goods & Passenger Manager, Perth. In 1946, he became District Controller, Carlisle. On nationalisation in 1948, Mr. Powell became Assistant District Traffic Superintendent, Carlisle, and, in December, 1948, was appointed District Operating Superintendent, Barrow. He was transferred, in the same capacity, to Derby, in 1952, and to Nottingham (Midland) in 1955. Under the present re-organisation, the lines controlled by the District Operating Superintendents at Nottingham Midland (former M.R. and later L.M.S.R.) and Nottingham Victoria (former G.G.R. & G.N.R. and later L.N.E.R.) District come under a single administration.

Mr. Richard F. Harrison, who has been in charge of the York Railway Museum since 1954, has been appointed Assistant Curator of the Stevenage and Hitchin Museums.

Mr. C. Hassall, Car-Equipment Engineer, Canadian Pacific Railway, has retired after 50 years of railway service. He is succeeded by Mr. E. W. Morris, Assistant Engineer Car-Equipment. Mr. A. Teoli, Senior Draftsman & Assistant Engineer in the office of the Chief of Motive Power & Rolling Stock, has been appointed Assistant Engineer Car-Equipment.



Mr. A. D. Cochran

Appointed District Operating Superintendent, Derby, L.M. Region

Mr. A. D. Cochran, District Operating Superintendent, Nottingham, Victoria, London Midland Region, British Railways, who, as recorded in our December 5 issue, has been appointed District Operating Superintendent, Derby, began his railway career as a clerk at Mossley Hill station in 1929. After gaining experience at a number of stations, he became a traffic apprentice in 1931. He then received training in the Operating, Commercial, Motive Power, and Carriage & Wagon Departments and was appointed Assistant District Controller, Preston, in 1936. He subsequently held similar positions at Heaton Norris and Stoke. In 1943, Mr. Cochran was appointed Temporary Assistant Divisional Controller (Freight Services) at Crewe. A year later he went to Wyre Dock as Assistant Docks Superintendent and, in 1945, was appointed Assistant District Operating Manager at Stoke. Mr. Cochran was assistant to the Principal of the School of Transport at Derby from 1946 to 1948, and subsequently became Assistant District Operating Superintendent at Leicester. He was appointed District Operating Superintendent at Gloucester, in 1951; at Derby, in 1955; and at Nottingham Victoria, in 1957.

Mr. Harold Sinclair, who has been Managing Director of Fluidrive Engineering Co. Ltd., for 30 years, has retired. He will continue as Chairman of the board and will be Engineering Director. Mr. Leonard Watson, an Executive Director, becomes Managing Director.

Sir Ronald Matthews has retired from the board of Thos. Cook & Son Ltd. after 16 years of service. Mr. E. Huskisson is also relinquishing his directorship. He has been with the company for 61 years. Mr. C. P. Hopkins, General Manager, Southern Region, British Railways, has resigned from the board in accordance with the general policy of the British Transport Commission to reduce the outside commitments of the General Managers of British Railways. Sir Eric Coates, Sir John Elliot, Sir Ivone Kirkpatrick and Sir Philip Warter have been appointed directors of Thos. Cook & Son Ltd. and subsidiary companies.

Mr. François Batisse has been appointed Assistant to General Agent, London, French Railways Limited.

Sir Willis Jackson, Director of Research & Education, Metropolitan-Vickers Electrical Co. Ltd., has accepted an invitation to act as Chairman of a committee, set up by the President of India, to review the work of the Indian Institute of Technology, Kharagpur. Sir Willis Jackson, who leaves for India on January 8, will also participate in the Indian Science Congress, to be held in New Delhi from January 21-28.

Mr. H. G. Nelson, Managing Director of the English Electric Co. Ltd., has also been appointed Deputy Chairman of a number of subsidiary companies of the group. These are: D. Napier & Son Ltd., Marconi's Wireless Telegraph Co. Ltd., Marconi Instruments Limited, English Electric Valve Co. Ltd., Vulcan Foundry Limited, Robert Stephenson & Hawthorns Limited. He has also been appointed Deputy Chairman of the associated company, Marconi International Marine Communication Limited.

Mr. P. Scouller and Mr. G. Botterill, Branch Manager, Simms Motor Units Limited, at Glasgow and Bristol respectively, have been transferred to the Head Office Sales Division, their activities covering the Scottish and Southern Regions. The following appointments have also been made: Mr. D. E. Berry, Motor Trades Department Manager, as Branch Manager, Glasgow; Mr. K. K. Cotterell, Assistant Manager, Nottingham, as Branch Manager, Bristol; Mr. C. F. Henry, Glasgow Branch Traveller, as Motor Trades Department Manager, Glasgow.

Following the integration of the Witton and Erith Works of the General Electric Co. Ltd. into a single engineering group, under the control of Mr. L. A. G. Lindley, Assistant Managing Director of the company, the following new appointments have been made:—

Witton Engineering Works

Mr. T. H. Kelsey as Assistant General Manager; Mr. J. W. Laing as Chief Engineer; Mr. J. S. Cliff and Mr. E. Gallizia as Assistant Chief Engineers; Mr. A. E. Taylor as Engineering Liaison Officer between the home branches and Witton and Erith.

Erith Engineering Works

Mr. B. S. Pelton as Manager, General Engineering Division, and Mr. D. M. Smith as Manager, Power Plant Division. Head Office, London

Mr. C. J. O. Garrard as Manager, Engineering Department. Mr. E. W. Molesworth succeeds Mr. Kelsey as Personal Assistant to Mr. A. L. G. Lindley.

Main Home Branches

Managers of the Engineering Departments at the Main Branches will be: Glasgow, Mr. J. R. Mercer; Newcastle, Mr. V. F. Ellison; Manchester, Mr. O. S. Chalmers; Birmingham, Mr. W. R. Greves.

Mr. H. Duval, Traffic Manager, S. A. Angleterre Lorraine Alsace, Dunkerque, and Southern Region, British Railways' Agent in that port has retired. He has been connected with British Railways' Shipping Services for over 30 years, having been in control at Dunkerque from 1926 to 1932, when the L.M.S. Railway steamer service between Dunkerque and Tilbury operated. Mr. Duval continued to function at Dunkerque when the service was transferred to Folkestone and operated by the Southern Railway, and was

appointed Southern Railway Agent there in 1932. He was concerned with the introduction of the Dunkerque-Dover Train Ferry Service, which replaced the Folkestone steamer service in 1936. After the war, the service was reopened in 1947. Mr. Duval resumed his position at Dunkerque, and, since 1948, he has been the Southern Region Agent.

We regret to record the death, on December 11, of Mr. W. E. Wright, a former director of the Pyrene Co. Ltd.

Mr. E. Marland has been appointed Commercial Manager, Capacitors & Resistors Division, the Plessey Co. Ltd.

Mr. F. L. Gibson, Divisional Executive, Wolf Electric Tools Limited, has been appointed Home Sales Manager.

Mr. G. F. Walsh, Supervisor of Employment, Montreal, Canadian Pacific Railway, has been appointed System Supervisor of Employment. Mr. T. W. Baird succeeds Mr. Walsh at Montreal.

Mr. H. Scott, Passenger Traffic Manager, Steamship Services, Canadian Pacific Railway Company, has retired. He has been succeeded by Mr. E. F. Thompson, Assistant Traffic Manager.

Mr. R. B. Nicholes, formerly of the sales staff of Le Carbone (Great Britain) Limited, has been appointed Sales Manager of the White Electrical Instrument Co. Ltd.

B.T.C. HOTELS & CATERING SERVICES BOARD OF MANAGEMENT

The British Transport Commission have approved the establishment of a Board of Management for its Hotels & Catering Services, which will thus conform to the same pattern of management as for the Commission's other activities generally. Mr. F. G. Hole, General Manager of the Hotels & Catering Services, will be Chairman of the Board of Management, the other members appointed being Mr. E. K. Portman-Dixon, Chief of Restaurant Cars & Refreshment Rooms; Mr. E. J. Vacher, Chief Hotels Manager; and Mr. W. Harris-Burland, Director of Accounts & Statistics, B.T.C. Mr. T. H. Baker will be the Secretary to the board.

WESTERN REGION APPOINTMENTS

The following additional appointments have been announced in connection with the British Railways Western Region Traffic Re-organisation:—

Mr. W. J. Hartnell as District Traffic Superintendent, Exeter.

Mr. F. G. Dean as District Traffic Superintendent, Plymouth.

Mr. D. C. I. Reynolds as Running & Maintenance Officer, Divisional Traffic Manager's Office, Bristol.

Mr. C. L. Newbury as Staff Assistant, Divisional Traffic Manager's Office, Bristol.

Mr. D. L. Pride as District Traffic Superintendent, Birmingham.

Mr. M. G. Cooper as Commercial Officer, Divisional Traffic Manager's Office, Birmingham.

Mr. D. S. Hart as Operating Officer, Divisional Traffic Manager's Office, Birmingham.

Mr. C. R. L. Rice as Running & Maintenance Officer, Divisional Traffic Manager's Office, Birmingham.

Mr. J. J. Donovan as Staff Assistant, Divisional Traffic Manager's Office, Birmingham.

Mr. Eric Merrill, Deputy Director of Public Relations, Ministry of Defence, has been appointed Chief Public Relations Officer, British Transport Commission.

Mr. B. Bouzan, Chief of Investigation Department, Canadian Pacific Railway, has retired. He has been succeeded by Mr. J. E. Belanger, Deputy Chief.

Mr. G. W. French, Divisional Shipping Manager, Southampton, Southern Region, British Railways, has retired. From January 1, the Southampton and Weymouth Marine Divisions have been amalgamated. Mr. W. G. Salmon, Divisional Shipping Manager, Weymouth, becomes Divisional Shipping Manager, Southampton/Weymouth.

Mr. A. H. Croxton, Chief Superintendent of Transportation, Rhodesia Railways, has transferred to the General Manager's Office as Principal Executive Officer (Movement), which is one of two appointments ranking immediately below that of Deputy General Manager. Mr. J. G. Fawcett has been appointed Chief Superintendent of Transportation, and in February, Mr. C. S. Robertson present District Superintendent, Salisbury, becomes Assistant Chief Superintendent, in Bulawayo. Mr. F. J. B. Haslett District Superintendent, Livingstone, will be transferred to Salisbury, and Mr. H. L. Willman, at present stationed at Broken Hill, will succeed Mr. Haslett.

The New Year Honours List

The following is a selection of New Year Honours of transport and industrial interest:—

Knights Bachelor

Major-General C. A. L. Dunphie, Managing Director, Vickers Limited.

Mr. J. A. Hiline, Chairman & Managing Director, J. Samuel White & Co. Ltd.; President Shipbuilding Conference.

Mr. H. Hull, President of the Transport Tribunal.

Mr. E. J. Pode, Managing Director, Steel Company of Wales Limited.

C.B.

Mr. M. M. V. Custance, Deputy Secretary, Ministry of Transport & Civil Aviation.

C.B.E.

Mr. F. D. Arney, General Manager, Port of Bristol Authority.

Mr. H. Bottomley, General Manager, Ribble Motor Services Limited.

Mr. S. E. Clotworthy, Managing Director, Northern Aluminium Co. Ltd.

Dr. M. Cook, Chairman, Metals Division, Imperial Chemical Industries Limited.

Mr. R. A. Lovell, Chief Mechanical Engineer, Ministry of Transport and Civil Aviation.

Mr. R. J. Pinder, Managing Director, Esso Petroleum Co. Ltd.

Mr. J. H. Reed, Managing Director, Ericsson Telephones Limited.

O.B.E.

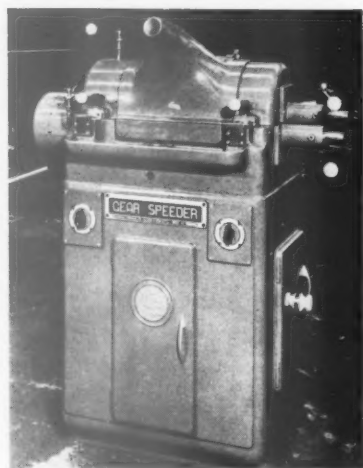
Mr. E. K. Portman-Dixon, Chief of Restaurant Cars & Refreshment Rooms, Hotels & Catering Services, British Transport Commission.

B.E.M.

Mr. J. Plunkett, Sample Passer, Dorman Long & Co. Ltd.

Mr. A. Thomas, Lock-Keeper, Gloucester Lock, British Transport Waterways.

NEW EQUIPMENT AND PROCESSES



Gear Sound Tester

THE Churchill Red-Ring Speeder is designed to facilitate study in production shop and gear laboratory, of the operation of gears at various speeds and loads. Applications include testing of most kinds of electric and diesel traction gears. It is claimed to screen out other sounds and to concentrate and amplify gear noise by its specially designed acoustical soundbox and horn. A special soundproof room is not essential. This is the only simple, direct, infallible way to spot objectionable gear noise before the gears are assembled.

A little experience with the device enables an inspector to identify various gear noises and his general gear experience then allows him to suggest remedies for them. This is specially useful in the case of high-speed gearing where a combination of slight dimensional errors, even within specified tolerances, can produce objectionable noise.

The lower of two precision, double tapered sleeve bearing spindles is driven

through vee belts by a 3 h.p. motor with 4 speeds forward and 4 in reverse. Parallel gauge stops permit the use of gauge blocks in accurate setting of the spindle centre distance which is easily varied. Loading and unloading are facilitated by a mechanism controlled by one convenient lever. A brake is provided for applying and varying the load under which the gears are to be tested.

Two sizes of machine are available, the GSC-10 in., with maximum length between shaft centres 11 in., and the GSC-18 in., with centres up to 14 in.

Further details, including price and delivery may be obtained from Charles Churchill & Co. Ltd., Coventry Road, South Yardley, Birmingham.

Flash-Butt Rail Welder

THE AI Type APHF/60R flash-butt welder can be mounted on a flat wagon or a specially designed vehicle, as a completely self-contained mobile welding depot. It can weld rails up to 155 lb. per yd., which present a sectional area of approximately 15 sq. in. of manganese steel.

A forging pressure of 60 tons is applied with a clamping pressure of 120 tons applied to each rail. The net weight of the machine is 18 tons.

The welder is designed to operate at an average speed of 20 welds per hr. With a rail length of 60 ft. this produces 1,260 ft. per hr.

To provide current for heating the rail ends up to a forging temperature, two transformers are fitted to the machine, each with an electrical rating of 500 kVA. Depending on site conditions these transformers may be supplied with electrical power from a mains grid supply or, alternatively, in the case of a mobile welding train, from an alternator unit driven by a diesel engine.

The machine illustrated has been supplied to the Chicago, Rock Island & Pacific Railroad.

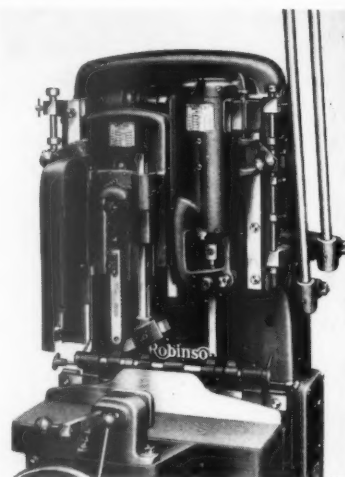
The builders offer a completely self-contained rail welding installation for either mobile or fixed site operation, in-

cluding electrical power equipment for the welding machine, compressed air supply, cooling water supply and all ancillary equipment.

Details, including price and delivery, may be obtained from the manufacturer, AI Electric Welding Machines Limited, Inverness.

Chain and Chisel Mortiser

DOUBLE-DEPTH stops, originally fitted only to the chisel section of the combined chain and chisel mortiser type SL/E, are stated to have proved a useful



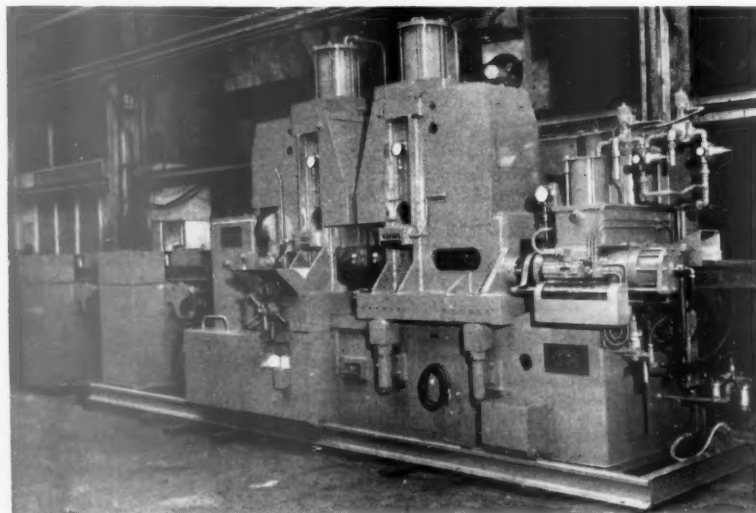
addition and the feature is now included for both the chain and chisel sections, so the work of making timber frames as in coachwork, furniture, and building should be simplified. Separately - adjustable collars govern the depths of the mortise and haunch. These are brought into use, as required, by push-pull plungers fitted to each headstock, both within easy reach of the operator. This allows both mortise and haunch depths to be gauged accurately and quickly at one set-up.

Haunching, usually gauged from marks on the tool or headstock, or carried out at a second set-up, can be held to close limits. It is claimed that mistakes are virtually eliminated and tool life increased, as short, crisp, strokes are used when cutting the haunch.

The top position of both chain and chisel headstocks can be adjusted instantly and independently so that only the shortest working stroke need be made. This feature is useful in working headstocks in conjunction with one another. For this operation, horizontal screw adjustment is provided for the chain headstock which allows the chain to be aligned with, or off-set from, the chisel headstock.

The depth bars operate the trip buttons controlling the motors, so that each motor stops automatically on reaching the top position. Separate locking handles are provided, so that when a section is not in use its depth bar can be locked in the "off" position.

The electrical control gear is housed in externally cored, dust-proof cavities cast into the pillar side. This allows easy



access for cleaning and servicing even when the machine is fitted close to a wall.

The mortiser will take timber up to 12 in. by 9 in., will chisel-mortise up to 1 in. square by 5½ in. deep, and chain mortise up to 1½ in. wide by 6 in. deep. It also bores.

Further details, including price and delivery, may be obtained from the manufacturer, Thomas Robinson & Son Ltd., Rochdale.

Carbon Dioxide Fire Extinguisher

FOR inflammable liquid fires and those involving electrical equipment indoors, as in a signalbox, a leak-proof 10-lb. carbon dioxide extinguisher, the Nu-Swift Model 1510, supersedes the Model 1210 of the same capacity.

The range is 15 ft., compared with 8 ft. with the older type. Through re-design of the model, fire-fighting capacity is stated to have been doubled. It is claimed that an experienced fire-fighter can put out an inflammable liquid fire 18 ft. sq. The extinguisher is operated in upright position by striking a knob.

Carbon dioxide, the makers state, though less efficient for fire-fighting than dry powder, is non-damaging in use and leaves no residue, while the carbon dioxide can be made to penetrate into places otherwise inaccessible. Hence its value for fires involving complicated electrical equipment.

The Model 1510 has been approved by the Fire Offices' Committee, Ref. No. 104/10. It is available for immediately delivery in Britain or for export.

Further details may be obtained from the manufacturer, Nu-Swift Limited, Elland, Yorks.

Surfacing Plate Adaptor

A SURFACING plate, the Lamalock, is arranged to fit on to all types and sizes of surface plates, either permanent magnetic or electric types, used in precision surface grinding and so on. It is designed to overcome the effects of the holding force causing distortion by pulling down flat to the chuck surface an out-of-flat component which, on release, becomes again out-of-flat although carefully machined. It is claimed that any unskilled operator can guarantee to produce a perfectly flat datum face.

The function of the plate is to provide a multiplicity of automatic packings of extreme robustness, combined with sensitivity and accuracy, with a simple method of operation.

A large number of Lamalock plungers are incorporated into an adaptor plate for an existing surface plate magnetic chuck in such a manner that the device can be readily mounted and dismounted.

Using the Lamalock surfacing plate makes it possible to build into the plate a mattress of plungers with close-pitched centres, all capable of being locked simultaneously by means of a simple jack screw piston.

After machining an accurate datum face, the plate is removed and the normal chuck surface is used for subsequent operations.

The correction capacity of the chuck in all instances is .030 in. To determine a correct locking pressure and to safeguard against damage, a safety device is built in.

This equipment is complementary to all magnetic chucks. Pole spacings of the

plate must be the same as those on the chuck on which it is to be used.

As an example of price, a Lamalock surfacing plate with 50 Lamalock plungers which can hold a minimum size component 1½ in. × 1 in. over the full area of a 14 in. × 6 in. Eclipse permanent magnetic chuck costs £42.

Further details may be obtained from the manufacturer, A. A. Jones & Shipman Limited, Narborough Road South, Leicester.

Molybdenised Grease for Vehicles

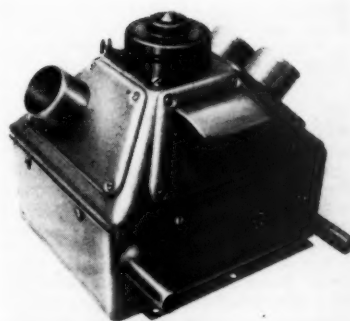
A MOLYBDENISED grease, Rocol Molyseal, has a wide range of application in vehicles. It has 320 penetration, so that it can be applied in pressure systems or in hand grease guns, and is stated to contain adequate molybdenum disulphide for use in the chassis of road vehicles, for which the particle size is compatible with the surfaces concerned. The base is bentone. The grease is resistant to high temperatures and it is water repellent. It can be used for wheel bearings and in exposed conditions. The main advantage claimed is a much higher resistance to pressure and provision of boundary lubrication between working surfaces, compared with conventional automobile greases. Scraping action does not remove the lubricant entirely and wear is inhibited or materially reduced.

The retail price of a 1-lb. tin is 6s. 8d. Further details can be obtained from the manufacturer, Rocol Limited, Ibex House, Minorities, London, E.C.3, and Rocol House, Swillington, Leeds.

Cab Heater and Demister

A CAB heater and demister, the D.9, uses what would otherwise be waste heat from the engine cooling system of the diesel or petrol rail or road vehicle or locomotive and beams it into the cab, and on to the windscreen to prevent the formation of condensation on the inside and ice on the outside.

The heater has four removable and interchangeable outlet panels, the use of which permits the operator to employ the installation which best suits his individual requirements. Varying degrees of cab heating are controlled by a flap on one of the panels, the remainder of which can be supplied as blanks or with one or two demister outlets. Up to six demister nozzles may be used, allowing the widest possible variety of arrangements for the distribution of the output. The compact design, 8½ in. × 7½ in. × 7½ in., permits



simple installation. The preferred mounting is beneath the screens with a fresh air inlet provided, but the heater may, if required, be used for the re-circulation of air. The unit will, with the hot water turned off, provide ventilation in warmer weather.

The output is 9,000 B.T.U. per hr., measured at a temperature difference of 120° F., between the water leaving the engine and the ambient temperature. The amount of air pushed out is 105 cu. ft. per min.

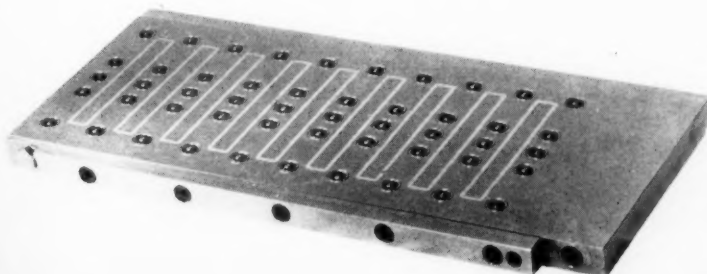
A complete and comprehensive installation kit, which includes two demister nozzles and hose, is included in the price of £11 5s. Additional nozzles and hose are available as required.

Further details may be obtained from the manufacturer, Clayton Dewandre Co. Ltd., Titanic Works, Lincoln.

Heavy and Light Duty Jacks

HEAVERY- and light-duty Duff Norton jacks for a variety of railway applications are now available in the U.K. Heavy-duty jacks are designed for track-laying, bridge-building, bracing in trenches, and locomotive repair work, and light jacks for vehicle repairs. There are three main groups, using ratchet, screw, and hydraulic principles respectively. Ratchet jacks are suitable for loads up to 20 tons. Both regular and inverted types of screwjack are available for lifts of up to 100 tons. A recent development of the screw type jack uses an air motor for lifting and lowering. Hydraulic jacks range from 3 to 100 tons capacity. The Duff Norton range constructed in the U.S.A. and those made in the U.K. together number some 200 jacks.

Further details may be obtained from the manufacturer in the United Kingdom, the Consolidated Pneumatic Tool Co. Ltd., 232, Dawes Road, London, S.W.6.



B.T.C. Passenger Charges Scheme

Commencement of hearing by Transport Tribunal

Mr. E. S. Fay, Q.C., for the British Transport Commission, stated at the opening of the public inquiry by the Transport Tribunal into the B.T.C. draft Passenger Charges Scheme in London on December 18, that the scheme set out to provide "true maxima," giving headroom between actual and authorised fares, and so reducing the "procession" of applications for changes. It contrasted with previous hand-to-mouth passenger schemes.

The Commission seeks to raise permitted fares from the present 2d. a mile to 3d. for second class passengers, and from 3d. to 4½d. for first class, and in the London Transport Area increases are sought of 1d. on fares from 4d. to 1s. 10d., except for the 5d. fare, and proportionate increases on higher fares and early morning and season tickets.

Sixty-two objectors have asked to be heard by the tribunal the members of which are Mr. Hubert Hull, Chairman, Mr. J. C. Poole, and Mr. H. H. Phillips.

No Sudden Increase

Mr. Fay pointed out that there was no intention of suddenly advancing fares inside or outside London. The Commission had already said there would be no general increase for the next six months, though this must not be taken as precluding selective increases within that period.

The scheme, Mr. Fay continued, omitted any reference to early morning fares, which were considered out of place in the modern economy. The Commission wanted discretion in the matter and could be trusted to exercise it.

Supplementary Charges for Comfort

Minor amendments were that power was sought to charge on British Railways a reasonable supplementary fare on certain trains such as Pullman services, and to round off children's fares to a penny, instead of a halfpenny.

Authority was also asked to charge on all-night buses in the London service a rate up to a maximum of double the ordinary rate.

"British Railways, scheme or no scheme, obviously cannot hope in the near future to pay its way," he declared. It was urgent that passenger services should be able to earn as much gross revenue as was reasonably possible, and in pursuit of that object the railway managers desired to have freedom and flexibility of action. The present structure was unduly rigid.

Higher Fares at Peak Hours

Other examples of the use of flexibility were the manipulation of fares to spread peak-hour travel, and the suggestion that the public ought to have the option of paying more to keep open a branch line.

The Commission was asking in 3d. a mile a little less than double the 1938 rate or exactly double the maximum of 1928. As most costs were two or three times higher than before the war the rate of 3d. a mile was "so modest it seems to me to be unanswerable."

As to changes in season ticket charges, Mr. Fay stated that under the scheme greater increases would be authorised for long journeys than short ones.

L.T.E. Fares

With London Transport, Mr. Fay pointed out that enough revenue was

needed to cover its working expenses, to provide £6,000,000 for central charges, £3,000,000 for the replacement reserve, and £2,000,000 towards the general reserve. To achieve this, net receipts in the budget for 1959 ought to be £11,000,000 instead of £5,000,000. The difference of £6,000,000 was just over the amount the scheme would yield.

On resumption of the hearing on December 19, Mr. Fay stated that to reach the neighbourhood of the target of an extra £6,000,000 needed to balance the L.T.E. budget, authority was sought to increase fares and abolish the statutory obligation to charge early morning fares.

No increase was proposed in the 3d. fare for one mile nor in the 5d. fare for two miles. From three to 11 miles there was a 1d. a mile increase and thereafter proportionate rises.

Early Morning Tickets

Mr. Fay described the early morning ticket as an anachronism. There is no reason whatever for continuing what was originally a concession made to low-paid workpeople who travel at an early hour: it was probably true to say that those who travelled after 8 a.m. received no more pay. No sudden action would be taken on these tickets.

Peak-Hour Travel

Sir Reginald Wilson, Member of the B.T.C. and Chairman of the Eastern Area Board, giving evidence on December 19, stated that the normal structure of fares at present tended to encourage peak hour travel because most season-ticket holders used the railways at these hours. The season ticket had a lower cost per mile than almost any other ticket. "The fare for the season-ticket holder today," he said, "is often less than half the ordinary fare. There is a good deal to be said for looking at it from the point of view of economics and attempt to correct this situation where it exists." He thought the only practical course was to allow the local manager, who watched all the facts, a sufficient range of freedom in which he could exercise his local knowledge and business acumen.

The real purpose of the scheme so far as British Railways were concerned, outside London in particular, was to provide room for a fares policy which would be in keeping with the vastly changed requirements of modern times.

Devolution of Authority

British Railways were engaged on "a great devolution of authority on a scale which had not existed for a couple of generations." They intended that the local manager should have the power of decision to adjust his charges individually to operating circumstances and passenger demands.

Mr. B. H. Harbour, Member of L.T.E., stated during the resumed hearing on December 22 that London Transport would wait six months before increasing fares under the raised "ceiling" now being sought by the B.T.C. The precise manner in which the new powers were used in London, and the timing, he added, would be determined by the Commission in the light of commercial and economic circumstances. It would be to the Commission's advantage to proceed by stages.

Cheap, early morning fares might be

completely withdrawn on L.T.E. road services at some future date. All-night bus services at present cost nearly twice as much to run as the revenue they brought in. The B.T.C. wished to charge up to twice as much as on the day services, possibly starting with a higher minimum fare.

L.T.E. Season Tickets

Season tickets gave too great a fares concession, as their holders were travelling at peak hours. The proposed new scale reduced the saving, but still left a considerable discount. A season ticket for 10 miles would show a discount of over 27 per cent if used for six days a week.

"In my view general economic conditions in recent months have moved very sharply against L.T.E.," Mr. Harbour said. "This movement has probably not had time yet to affect traffic receipts, but it will." Credit relaxation would undoubtedly increase the sale of cars, other means of private transport, television sets and the like. It would undoubtedly operate to the disadvantage of L.T.E.

In a reference to the bus strike, he stated his personal view that it was unlikely that L.T.E. would ever regain the full amount of traffic lost as a direct consequence. The Executive had yet to see the effect on receipts of the substantial mileage reductions which had been or were still to be made.

Mr. P. G. James, Chief Financial Officer of L.T.E., stated that it seemed at the moment unlikely that the present level of fares would enable London Transport to earn net receipts of more than £5,000,000 in a full year. It was apparent that net revenue of that order was quite insufficient to keep London Transport in a sound financial position. The sum required would be £11,000,000.

Additional Capital for L.T.E.

Before long a substantial amount of additional capital would have to be provided by the Commission for London Transport. There would be over £24,000,000 to replace and modernise railway rolling stock, a trolleybus conversion scheme exceeding £9,500,000, modernisation of the power supply system costing £6,000,000, the widening of the existing Metropolitan Line from Harrow to Watford South Junction, and electrification of the Metropolitan from Rickmansworth to Amersham and Chesham exceeding £3,500,000—making a total of about £44,000,000.

Mr. James, resuming his evidence on December 23, stated that London Transport ought to have a general reserve of £10,000,000 and a contribution of £2,000,000 a year to the general reserve would be reasonable. There was no reserve today.

Asked about the level at which operating charges should be maintained, he said: "Fares should always be at such a level as to enable London Transport to meet its working costs, make its contribution to the full to central charges, and make the maximum practical contribution to replacement reserve and general reserve."

"What is practical must depend on commercial considerations, but London Transport has always been regarded as having an obligation to pay its way, taking

one year with another, and charging powers ought to be used to the maximum practical extent to enable it to do so."

The Commission's evidence in chief was completed and the tribunal adjourned until February 3.

Further Cuts in Southern Region Passenger Services

No business services are affected by reductions in the passenger service of British Railways Southern Region, which come into force on January 5.

The cuts take three forms: (1) Some diesel-electric trains which are longer than necessary will be shortened in the slack travel periods; (2) certain seasonal steam trains will be withdrawn during the winter months when they carry only a handful of passengers; and (3) a few trains, mainly in the South-West, which carry few passengers, even in the summer, will be withdrawn altogether, at least for the time being.

It is pointed out by the Southern Region that none of the trains which are being withdrawn regularly carries more than a bus-load of passengers. In many cases the cuts in steam services will mean that passengers will either have to travel by other routes or wait longer for connections. Most of the extra waiting, however, will be at change stations where there are refreshment facilities.

Trains Suspended

Trains suspended during the winter will include:

To and from Portsmouth & Southsea: Certain trains on through services between Portsmouth & Southsea and Bristol Temple Meads, will now run only between Bristol and Salisbury.

Reading and Portsmouth & Southsea: 11.55 a.m. Reading General to Portsmouth & Southsea and 3.7 p.m. Portsmouth to Reading.

Brighton and Bournemouth, Southampton, Weymouth, Eastleigh and Wimborne: 9.40 a.m. Brighton to Bournemouth West, 1.50 p.m. Bournemouth to Brighton, 8.52 p.m. Bournemouth West to Eastleigh (via Ringwood), and 9.37 p.m. Southampton Central to Wimborne.

West Country: 8.55 a.m. Ilfracombe to Salisbury, and 8.53 a.m. Torrington to Salisbury, which have formed one train from Barnstaple to Salisbury, and 7.50 a.m. Yeovil Town to Ilfracombe and Torrington.

Certain trains will continue to run on Saturdays only.

Seven trains in Hampshire, Dorset, and the West of England will cease to be run altogether until further notice from January 5.

Where practicable other trains will make extra calls or have their times changed slightly to minimise the effect of these economy cuts.

Hastings Line via Tunbridge Wells

The diesel-electric trains which will be shortened are on the Hastings line. The new measure will save 20,000 train car-miles a week. A check has shown that some of the 12-car trains which have been running since the diesel-electric services were introduced on the Hastings line, are longer than is now necessary outside business hours.

From January 5, for the winter at least, some of the trains will be shortened to six cars between Charing Cross and Tun-

bridge Wells. Those trains which carry a larger number of passengers, including all business trains, will still be formed of 12 vehicles.

At present an extra six-car unit which calls at all stations between Hastings and Tunbridge Wells joins the train at Tun-

bridge Wells Central to make it 12 cars. In future this six-car unit will run a shuttle service between Hastings and Tunbridge Wells. The express will run as six cars all the way and passengers using the shuttle service will change to or from the fast train at Tunbridge Wells Central.

British Railways New Chemical Laboratories

Provision for meeting increased demand resulting from modernisation programme

British Railways are building new chemical laboratories for the Research Department, on a site near the former Alexandra Palace Station at Muswell Hill, London, which will enable certain chemical work now being conducted at various laboratories elsewhere to be concentrated and co-ordinated at one centre. A contract has been placed for the construction of the building, and work is in progress. It is expected that the new laboratories will be completed by the end of next year.

The demands upon the chemical services of British Railways' Research Department have increased considerably, particularly as a result of the railway modernisation programme, and the existing laboratories in the London area, which are widely dispersed, are obsolete and inadequate for present and future requirements. It was therefore decided to erect a new building which would provide modern laboratory facilities and allow the work to be carried out in one establishment. The Muswell Hill site was selected for the new building as land was available, and the area is free from vibration and industrial atmospheric pollution.

The new building will house the headquarters of the Chemical Services of

British Railways, and the laboratory accommodation will comprise:—

(a) An Area Chemical Laboratory which will provide a general chemical service throughout East Anglia and within a radius of some 50 miles around London for such matters as the examination of materials to ensure that they meet specifications, the examination of waters, oils, etc., and chemical work associated with claims for damage. This will replace the obsolete premises at Stonebridge Park, and will obviate the rehabilitation of a former laboratory at Stratford.

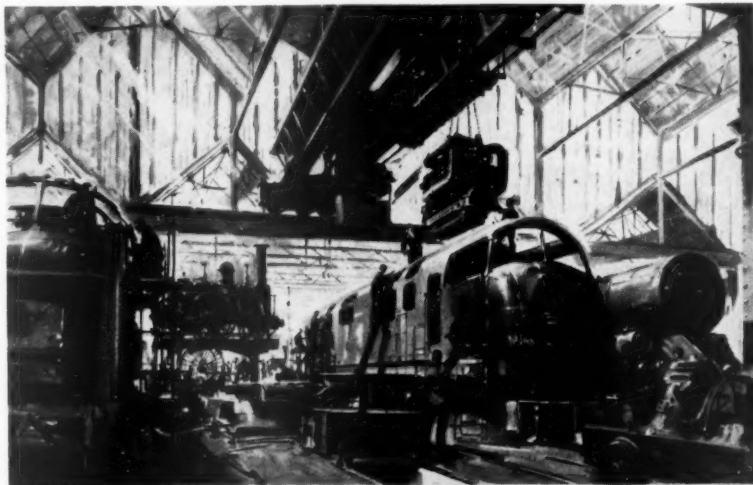
(b) A Building Materials Laboratory to expand the research work of a small laboratory at Wimbledon, which will be closed.

(c) A Research Laboratory where chemical investigations will be conducted.

(d) A Corrosion Laboratory concerned with research problems, such as combating corrosion in the cooling systems of diesel locomotives, and the protection from atmospheric attack of the supporting structures used in railway electrification on the overhead system. This laboratory will replace a small and inadequate laboratory at Derby.

The new building, which will cover a

British Railways Publicity



Every week British Railways Modernisation Plan goes further ahead.

Painting by Terence Cuneo commissioned by Unilever Limited for the cover of its magazine "Progress" and subsequently used by the B.T.C. as a poster. Diesel-hydraulic locomotives are seen under construction at Swindon

ground area of 5,500 sq. ft., and provide a total of 17,650 sq. ft. of floor space, will have walls of golden-brown facing bricks, and blue-grey slate panels in pre-cast Portland stone surrounds supported upon a reinforced concrete framework. The Portland stone will be repeated around windows and as a coping to the specially designed flat roof of some 5,000 sq. ft., which will provide facilities for atmospheric tests on materials.

The accommodation is planned on three floors. The main chemical laboratories and a small library will be on the first floor, the administrative offices on the ground floor, and the remaining laboratories, stores, and service rooms on a lower ground floor.

The Chemical Laboratory building has been designed under the direction of Dr. F. F. C. Curtis, A.R.I.B.A., Architect to the British Transport Commission. The consultant structural engineer was Mr. A. E. Beer. The contractors were Holliday & Greenwood Limited.

Staff and Labour Matters

Application for Improved Holiday Arrangements for Railway Salaried Staff

The Railway Staff National Tribunal issued its Decision (No. 23) on December 11, 1958, on the following claim from the T.S.S.A. and N.U.R.:—

"That the arrangements for granting payment and leave in lieu of work performed on Bank and Public Holidays to salaried staff should be revised to provide for:—

- (a) The extension of the ten days Bank and Public Holiday leave at present

- granted to Head and District Office salaried staff to salaried staff employed at stations and depots; and
(b) Enhanced payment at the rate of time-and-a-half for work performed on Easter Monday, Whit-Monday, August Bank Holiday, and Boxing Day in England and Wales (or comparable days in Scotland) for salaried staff employed in Head and District Offices."

The Tribunal, which consisted of Sir John Forster (Chairman), Mr. A. J. Espley (nominee of the British Transport Commission), and Mr. J. A. Birch (nominee of the trade unions), heard the parties on December 1, 1958. Its award was issued in the following terms:—

"The Tribunal has given careful consideration to the evidence and submissions of the parties and it finds and awards in respect of the claim before set out that as from January 1, 1959:—

- (a) The days of holiday applicable to salaried staff employed at stations and depots under the current Bank and Public Holidays arrangement shall be extended for a further four days, such additional days to be paid for at ordinary rates and to be taken at such times as may be locally agreed having due regard to the exigencies of the service, and
(b) Enhanced payment at the rate of time-and-a-half for work performed on Easter Monday, Whit-Monday, August Bank Holiday and Boxing Day in England and Wales (or comparable days in Scotland) shall be made to salaried staff employed in Head-quarters Offices and District Offices."

National Union of Mineworkers

The National Union of Mineworkers is

to lodge a claim with the National Coal Board for a 35-hr. week for underground staff plus winding time of half an hour a day.

The claim represents a cut of half-an-hour a day in the miners' present working time underground. It is possible that the claim will have to go to arbitration as the Chairman of the National Coal Board recently stated that a shorter working week for mineworkers could not be entertained in view of the extra cost involved.

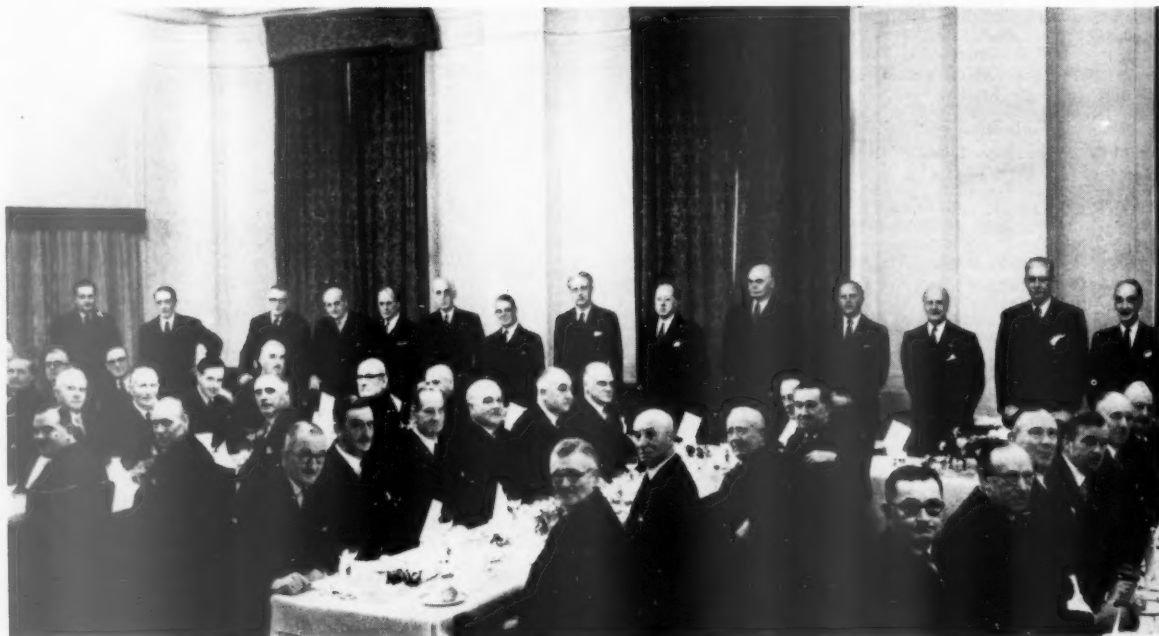
Questions in Parliament

Signalling in Fog

Mr. Arthur Woodburn (Stirlingshire E. & Clackmannan—Lab.) asked the Minister of Transport & Civil Aviation on December 17 to what extent problems of signalling in fog, controlled heating of trains, and so on, with the possible use of new and automatic devices, had been submitted for study by the Department of Scientific and Industrial Research or other official scientific research organisations; and what progress had been made.

Mr. G. R. H. Nugent, Joint Parliamentary Secretary, in a written answer: Problems of signalling in fog are studied directly by the railway engineers concerned, assisted by the Commission's own research organisation and its suppliers of equipment. Many other problems of applied research connected with railways are also examined by this organisation who keep in close touch with the D.S.I.R., the Ministry of Supply, and the Admiralty. Useful progress is being made as a result of this continuous collaboration.

Western Region Chief Officers' Christmas Luncheon



At the Great Western Royal Hotel, Paddington, on December 22: standing (left to right): Mr. M. H. B. Gilmour, Sir Edward Cadogan, Mr. John Ryan, Mr. A. Dickson Wright, Sir Leslie Ford, Lord Strathalmond, Mr. R. F. Hanks, the Prime Minister, Mr. K. W. C. Grand, Sir Chas. Hambro, Mr. A. Chamberlain, Sir Allan Quartermaine, Mr. W. Codrington, Mr. David Blee (see editorial comment on page 1)

Contracts and Tenders

Isolator switches for British Railways electrification programmes

The British Transport Commission has placed the following orders for a total of 1,707 isolators (hand-operated switches) for overhead line equipment, for British Railways electrification programmes in the Eastern, London Midland, and Scottish Regions:—

Hackbridge & Hewitt Electric Co. Ltd.: 487 isolators and subsidiary equipment

Bertram Thomas (Engineers) Limited: 520 isolators and subsidiary equipment

Switchgear & Equipment Limited: 680 isolators and subsidiary equipment

Electric Transmission Limited: 20 isolators and subsidiary equipment.

The isolators are switches which are mounted on the structures supporting the overhead electrical equipment, and can be operated by hand from ground level to isolate electrically, sections of the overhead conductor line. They are also suitable, when required, for operation by motor equipments remotely controlled.

The Egyptian Republic Railways has placed an order with Hitachi Limited, Tokyo, for 350 diesel locomotives. The value of the contract is some \$18,500,000.

Ansaldo S.p.A. has received an order from the Italian State Railways for 15 diesel-hydraulic B-B locomotives of 1,600 b.h.p. and 64 tons weight, following successful results of a prototype. Each locomotive is to have two Maybach-type MD.435 engines, for which Ansaldo holds the Italian licence, and these are to drive through Mekydro transmission.

Material Ferroviario S/A "Mafersa," São Paulo, Brazil, has received orders from the Araraquara Railway for 23 stainless-steel coaches of "Pioneer III" design, and from the Sorocabana Railway for 103 coaches also of "Pioneer III" design.

The Indian Railway Board has placed an order with Jessop & Company, Calcutta, for the part manufacture of 104 passenger coaches for electric trains. The manufacture of electric traction equipment for these coaches at the Heavy Electrical Project, Bhopal, is under consideration.

British Railways, London Midland Region, has placed the following contracts:

Thomas Fletcher & Co. Ltd.: second stage of widening of bridge No. 10 carrying A6 trunk road over Trent to Weston line for Ministry of Transport

Leonard Fairclough Limited: stage 2 of alteration to Edgeley Tunnel, Stockport, in connection with main line electrification

Kyle Stewart (Contractors) Limited: renewal of roof coverings, vertical sheeting and provision of vertical glazing, breaking-up shop, Locomotive Works, Crewe

Industrial Fan & Heater Co. Ltd.: installation of mechanical ventilation plant, electric computer room, Carriage & Wagon Works, Wolverton

Jesse Tildesley Limited: contract for supply and erection of steelwork for boiler house and turbine room, Locomotive, Carriage & Wagon Works, Derby

K. P. Pigott & Company: earthwork,

drainage, bottom ballasting, new district electric depot and carriage cleaning sidings, Allerton.

British Railways Southern Region has placed the following contracts:—

Le Grand, Adscot, Limited: trial borings and Site investigation, Dover Marine Station

Franks Harris Bros. Limited: new car park, Egham

W. R. Payne & Sons Limited: station renovations, Gillingham, Newington, Rainham and Shepherdswell

Wallace & Tiernan Limited: chlorination plant for water supply, Dover Priory

E. C. MacDermot & Company: concrete pavings and drainage, Feltham Marshalling Yard

Roneo Limited: steel partitions and layout of offices, Victoria Station

C. & T. Painters Limited: renovations, Dartford Station

Winter & King Limited: roof cladding and glazing, Nine Elms Goods Yard

Constructors Limited: steel partitions and layout of offices, Cannon Street, Dowgate Hill House, and Queen Street Offices

The Cleveland Bridge & Engineering Co. Ltd.: reconstruction, Balham, Dragmire Lane Bridge

G. J. Furneaux Limited: provision of road motor servicing workshop, Poole.

The Special Register Information Service, Export Services Branch, Board of Trade, has received calls for tenders as follow:—

From South Africa:

12 bogie ballast wagons, type "Y-7," 3 ft. 6 in. gauge, in accordance with Specification No. S.A.R. 380/1957, complete in all respects, but without bogies, automatic couplers, draw gear elements, vacuum cylinders with trunnions, and vacuum release valves.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. B.7505: Bogie Ballast Wagons," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is February 20, 1959. Local representation is essential. The Board of Trade reference is ESB/30828/58.

19 items of vacuum brake gear.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. K.7520: Vacuum Brake Gear (Rubber Parts)" should be addressed to:—The Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is January 9, 1959. Local representation is essential. The Board of Trade reference is ESB/30824/58.

From India:

10 items of superheater element tubes. The issuing authority is the Director-General of Supplies & Disposals. The tender No. is P/SR-7/18158-1/1. Bids should be sent to the Director-General of Supplies & Disposals, Shahjahan Road, New Delhi. The closing date is January

6, 1959. The Board of Trade reference is ESB/31432/58.

From Thailand:

11,000 bearing plates
70,000 fish bolts and nuts
70,000 spring washers

The issuing authority and address to which bids should be sent is the Railways Organisation of Thailand, Bangkok. The tender No. is 01246. The closing date is January 19, 1959. The Board of Trade reference is ESB/30799/58.

From Australia:

200 impedance bonds.

The issuing authority and address to which bids should be sent is the Secretary, Victorian Railways Administrative Offices, Spencer Street, Melbourne, C.I. The tender No. is 61,383. The closing date is January 14, 1959. The Board of Trade reference is ESB/30760/58.

Further details regarding the above tenders, together with photo-copies of tender documents, can be obtained from the Branch (Laccon House, Theobalds Road, W.C.1).

Queensland Government Railways has issued invitations to tender for the manufacture, supply, and delivery of 20 diesel railcars (10 twin-units), each unit consisting of one passenger and one passenger-luggage car, each car being powered. A set of drawings and tender documents is available at the office of the Agent General for Queensland, Strand, London, W.C.2, for perusal, or may be purchased from the Commissioner for Railways, Brisbane, at a cost of £A75. This amount will not be refundable to the successful or any other tenderer. The closing date is February 20, 1959.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that the closing dates of the call for tenders from Portuguese East Africa for permanent way equipment, and from Sudan for tank wagons, recorded in our November 7 issue, have been postponed to January 16 and 20, 1959, respectively.

CONSTRUCTION OF BUDD ROLLING STOCK IN BRAZIL.—In an editorial article on pages 415 and 416 of our issue of October 3, 1958, the statement was made that the Rede Ferroviaria Federal S.A., the joint stock company incorporating the Brazilian Federal Government railways, "is to place orders for stainless-steel passenger coaches, air-conditioned, from Cia. Brasileira de Material Ferroviario (Cobrasna), which holds a licence to build the Budd rolling stock." This is not correct. The sole South American licensee of the Budd Company, of Philadelphia, U.S.A., is the Material Ferroviario S/A. Mafersa, of Sao Paulo, which has been licensee since 1954. This company has already built 54 all-stainless-steel coaches for suburban traffic. These are now working on the Santos-Jundiahy Railway. Reference to further orders obtained by S/A. Mafersa is made on this page.

Notes and News

British Railways Christmas Traffic.—British Railways conveyed 231,000 passengers from principal London termini on Christmas Eve in 612 long-distance trains, an increase of 18,000 passengers compared with Christmas Eve, 1957. More than 58,000 wagons of coal were despatched from the collieries during the 72 hr. ended on December 27, mainly on Christmas Eve, or 2,000 more than during the corresponding period of 1957.

Queen's Journey by Ordinary Train.—The Queen and other members of the Royal family travelled on December 22 from Liverpool Street in a saloon attached to the 2.24 p.m. express from Liverpool Street, hauled by a "Britannia" class Pacific locomotive, to Kings Lynn, whence the saloon and a van were worked specially to Wolferton, the station for Sandringham. The Royal train is stated not to have been used because of the difficulty of operating a special train at this period of heavy traffic.

Presentation to Mr. J. Taylor Thompson.—Shortly before his retirement on December 31, Mr. J. Taylor Thompson, Chief Civil Engineer, British Railways, London Midland Region, presided for the last time as Chairman of British Railways' Civil Engineering Committee, at the meeting at Kings Cross Hotel on December 16. After the meeting, Mr. John Ratter, Member, B.T.C., presented Mr. Taylor Thompson on behalf of the members of the Committee with a pair of binoculars, suitably inscribed. As a past Chairman of the Civil Engineering Committee, Mr. Ratter testified to the help he had received in so many ways from Mr. Taylor Thompson, who had been a member of the Committee since its inception in 1948 and Chairman during the past four years. He wished him a very long and happy retirement. All the members added their good wishes and paid tribute to Mr. Taylor Thompson's sterling qualities and in particular his leadership, tenacity and sincerity of purpose and wise counsel. The accompanying illustration shows (left to right): Messrs. A. H. Cantrell, Chief Civil Engineer, Southern Region; A. K. Terris, Chief Civil Engineer, Eastern Region;

C. C. Inglis, Chief Research Officer, B.T.C.; M. G. R. Smith, Chief Civil Engineer, Western Region; A. Dean, Chief Civil Engineer, North Eastern Region; M. G. Maycock, Chief Civil Engineer, Scottish Region; T. M. Herbert, Director of Research, British Railways Division, B.T.C. (behind Mr. Taylor Thompson); J. Taylor Thompson; F. E. Campion, latterly Chief Civil Engineer, Southern Region; J. Ratter; C. E. Dunton, Chief Civil Engineer, London Transport Executive; C. W. King, Chief Civil Engineer, British Railways Division, B.T.C.; Dr. F. F. C. Curtis, Architect, B.T.C.; and Mr. J. A. R. Turner, Secretary, Civil Engineering Committee.

Foulridge Station to Close.—British Railways, London Midland Region, announces that Foulridge Station, between Colne and Skipton, will be closed from January 5. Passengers should book to Colne and thence by buses of the Burnley Colne & Nelson Joint Transport Committee or Ribbles Motor Services Limited. Parcels and passenger train merchandise will be dealt with at Colne and alternative arrangements are being made for freight train traffic.

Waiting Room Pushed on to Line.—A wooden waiting-room and lavatory were pushed on to the line at Adderley Park Station, on the main Birmingham to Coventry line, London Midland Region, British Railways, on December 18, when an embankment gave way. Earth and rubble fell on the platform and over an adjoining goods siding as a brick wall holding up the 40-ft. embankment collapsed a few minutes after a passenger train had passed through the station. The main line was blocked for 5 hr.

Passenger Services Withdrawn on Monmouth to Ross and Chepstow Branches.—The passenger train services between Monmouth Troy and Ross-on-Wye and between Monmouth Troy and Chepstow, in the Western Region of British Railways, are to be withdrawn on January 5. Bus services are operated in the area by Red & White Services Limited. On the Monmouth—Ross Branch, Walford Halt, Symonds Yat Station, Hadnock Halt, and Monmouth May Hill Station will be

closed. Tintern and Redbrook-on-Wye, on the Chepstow-Monmouth line, will remain open for goods and parcels traffic. On the Monmouth-Ross line, Lydbrook Junction will continue to deal with goods and parcels, and Kerne Bridge will remain open for goods traffic. The passenger service recently has been five railcars each way between Monmouth and Ross-on-Wye, and four between Monmouth and Chepstow, weekdays only.

New Car Park for East Finchley Underground Station.—A new park for 29 motorcars is to be opened at East Finchley Station, on the Northern Line of London Transport, on January 5. Part of the goods yard adjoining the main entrance to the station has been surfaced. It will replace the temporary park for 12 cars in the former approach road, south of the station. The latter will be used as an overflow.

More Diesel Railcars to be Introduced in the N.E. Region.—The North Eastern Region of British Railways is to introduce many additional diesel railcar services on January 5, when more than 140 new diesel cars come into operation. This is the largest number ever to be introduced in the Region at one time. Each weekday, more than 170 of the existing steam trains will be replaced by multiple-unit diesel railcars, almost all of which will be run at higher speeds than the steam trains they replace. In many of the districts affected, a new and improved pattern of service will be given; many of the branch lines having more frequent services.

British Contribution to Indian Engineering Institute.—The British and Indian Governments and representatives of British industry are to co-operate in establishing an engineering institute at Delhi, according to an announcement by the Commonwealth Relations Office. The institute will provide courses of undergraduate and post-graduate study and facilities for research for about 1,000 students of civil, mechanical, chemical, and electrical (power and communication) engineering. Some departments may begin work at the start of the next Indian academic year in July, 1959. The British Government contribution, which is understood to be about £250,000, is to be spent on recruiting and paying eight to 10 members of the senior teaching staff. In addition the Federation of British Industries, in co-operation with the Institutions of Civil, of Electrical, and of Mechanical Engineers, which are giving technical advice, is examining the question of raising in certain sections of British industry a fund to be spent on British equipment for the institute.

Changes to London Transport Trolleybus Services.—London Transport has announced details of changes to trolleybus services starting on January 7. They represent the final stage of service reductions which London Transport has had to make in its Central Road Services this year because of a heavy fall in passenger traffic. The reductions in services will affect only about one-third of the trolleybus routes on weekdays and about half on Sundays. On Mondays to Fridays, 22 of the 62 services operating on these days are being slightly reduced in the off-peak hours and in the late evening after the rush hour when traffic has fallen sharply. On Saturdays 20 routes out of 60 are being reduced. Some routes will be cut in the early morning and late evening, and others will be reduced all day. On Sundays, when passenger traffic has fallen most sharply,



Members of the British Railways Civil Engineering Committee at the presentation to Mr. J. Taylor Thompson, Chairman of the Committee, on his retirement

the reductions will be heavier than on weekdays; 25 out of 55 routes are affected. Three trolleybus routes will be withdrawn and one curtailed; they are all covered by other existing services or by extensions which are being made to other routes.

Western Region Cinema Coach Excursions.—A successful experiment has been carried out by the Western Region of British Railways in the running, for the first time on excursion trains, of a cinema coach in which successive film shows were given to passengers en route, without charge. The first was from Bristol to Paddington on December 6 and was followed by one from Treherbert and Cardiff to Paddington on December 14. The cinema, which consists of a specially adapted restaurant car, provides seating for 30 persons, and four showings were made on the trip from Bristol and five on the excursion from Treherbert and Cardiff. On the excursion from Treherbert and Cardiff to Paddington questionnaires were given to those who visited the cinema coach. Some 98 per cent said that they enjoyed the films shown. On being asked if the cinema coach on the excursion had any influence on their decision to travel, 53 per cent said that it had.

Collision at Tunbridge Wells Central Station.—A six-car multiple-unit diesel-electric train collided with the rear of a stationary six-car diesel train in Tunbridge Wells Central Station on December 22. The stationary train, which was the all-stations portion of a Hastings to Charing Cross train, was waiting to link up with the second portion, fast from Hastings, to form a fast train to London, when the collision occurred. The motorman of the second diesel set and two passengers were detained in hospital. Several other passengers were taken to hospital but discharged after treatment.

British Waterways Exhibit at National Boat Show.—The British Waterways stand at the National Boat Show, which is being held at Olympia, London, W.14, until January 10, features the increasing facilities for pleasure boating on canals and inland waterways in Britain. They range from all-in luxury period cruises to "drive yourself" motorboats and to help for the boater with his own canoe. Models of the new London Yacht Basin near St. Pancras Station and of a new standard hire cruiser are on display. An automatic screen shows coloured photographs of motor cruisers hired out by British Waterways, and the different types of vessels available for outings and "Heart of England" tours. A large map indicates the many routes open to pleasure craft.

Fleet Street Railway Circle Visit to Swindon Works.—Eighteen members of the Fleet Street Railway Circle, the aim of which is to stimulate journalistic interest in railways, recently visited Swindon Works, British Railways, Western Region, where they visited the Locomotive Works, the Carriage Works, and the Rehabilitation Centre, and were the guests of the Western Region at luncheon at the Great Western Hotel. The party included the President of the Circle, Mr. H. L. Howarth, Joint Managing Director of Westminster Press Provincial Newspapers and Chairman of the Press Association; the Chairman & Secretary, Mr. Harold Walton, Foreign Editor of *The Evening News*; and three Honorary Members, Mr. D. S. M. Barrie, Assistant Secretary General, British Transport Commission; Mr. C. J. Rider, Public Relations & Publicity Officer,



Interior of Western Region cinema coach included in excursion trains

British Railways, Western Region; and Mr. G. W. Brimyard, Public Relations Officer, Great Eastern Line, Eastern Region. They were joined at luncheon by Mr. R. A. Smeddle, Chief Mechanical & Electrical Engineer, Mr. C. T. Roberts, Principal Assistant to Chief Mechanical & Electrical Engineer, and Mr. A. W. J. Dymond, Supplies & Contracts Manager, Western Region; Mr. S. A. S. Smith, Works Manager (Locomotive, Outdoor Machinery & Electrical), and Dr. P. F. A. Watkins, Senior Medical Officer, Swindon. The accompanying illustration shows (left to right): Messrs. Cecil J. Allen, member of the Circle; C. T. Roberts; Harold Walton; R. A. Smeddle; C. J. Rider; and H. L. Howarth.

The Institution of Locomotive Engineers.

—An informal meeting of members of the Institution of Locomotive Engineers will be held on January 27, at the Institution of Mechanical Engineers, 1, Birdcage Walk, London, S.W.1, at 5.30 p.m., when the following films will be shown: "The Third River," lent by the Petroleum Films Bureau, describing the construction

over the desert of a 555-mile 2 ft. 6 in. diameter pipeline from the oilfields of Kirkuk in Iraq to Banias on the Mediterranean coast; and "Glass," which is in colour and lent by Pilkington Brothers, describing the manufacture of glass. It is also hoped to include in the programme a film describing Calder Hall, Britain's first "atomic energy" power station. Tea will be served at 5 p.m.

Cleveland Bridge & Engineering Co. Ltd.—Net profits of the Cleveland Bridge & Engineering Co. Ltd. in the year ended September 30, 1958, rose from £77,145 to £88,412. The dividend is maintained at 6½ per cent tax free. The profit is struck before making any provision for the loss on Australian contracts.

English Electric Issue.—A turnover in 1958 13 per cent higher than estimated two years ago and the extended credit required in the export market have made desirable additional capital of over £10 million for the English Electric Co. Ltd. This is being raised by issues of debenture stock and ordinary shares.



Officers of the Western Region with members of the Fleet Street Railway Circle on a visit to Swindon Works

Debenture, preference and ordinary stockholders registered on November 21, 1958, will have the right to apply for a £6-m. issue of $5\frac{1}{2}$ per cent debenture stock 1979-84 at a price of £97 per cent. Ordinary stockholders of the same date are given the right to apply for a total of 1,826,606 £1 Ordinary shares at 50s. each on a one-for-ten basis.

Forthcoming Meetings

- January 6 (Tue.).—Institute of Transport, Gloucester & Cheltenham Group, at the Midland & Royal Hotel, Gloucester, at 7 p.m. Paper on "Some freight handling problems," by Mr. M. G. Cooper, District Commercial Manager (Gloucester), British Railways, Western Region.
- January 6 (Tue.).—South Wales & Monmouthshire Railways & Docks Lecture & Debating Society, Newport Section, in the Dining Room, Newport High Street Station, at 6.45 p.m. Paper on "The commercial challenge to the railways," by Mr. S. C. Harvey, Assistant (Commercial), Western Region, Paddington.
- January 7 (Wed.).—Institution of Railway Signal Engineers, York Section, at the Signalling School, Toft Green, York, at 5.30 p.m. Paper on "Developments in telecommunications with respect to the modernisation programme," by Mr. A. P. Wilson.
- January 7 (Wed.).—Electric Railway Society, at the Fred Tallant Hall, 153, Drummond Street, N.W.1, at 7.15 p.m. Paper on "The City and South London Railway," by Mr. T. S. Lascelles.
- January 8 (Thu.).—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Room, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "Modernisation and its effect on railway operation," illustrated, by Mr. G. E. R. Penney.
- January 8 (Thu.).—British Railways, London Midland Region, Lecture & Debating Society, in the Clerical Staff Dining Club, Cardington Street, Euston, N.W.1, at 5.45 p.m. Paper on "The customer from the railways' point of view," by Mr. E. W. Arkle, Director of Traffic Services.
- January 9 (Fri.).—The Railway Club, at 320, High Holborn, London, W.C.1, at 7 p.m. Presidential address by Mr. T. S. Lascelles, "Safety measures on railways."
- January 10 (Sat.).—Electric Railway Society, at the Exchange and Engineering Centre, Birmingham, at 2.45 p.m. "Transport Miscellany," by Mr. A. P. Tatt.
- January 12 (Mon.).—Institute of Traffic Administration, Birmingham Centre, at the Cosmopolitan Club, Fore Street, Birmingham, at 7.15 p.m. Discussion on labour relations in transport, led by S. Ison, Transport and General Workers' Union, and D. E. Skelding, Road Passenger & Transport Association.
- January 12 (Mon.).—Railway Correspondence & Travel Society, Northampton Branch, at the Liberal Club, Castilian Street, Northampton, at 7.30 p.m. Illustrated paper on "Locomotive moves seen in Spain and Portugal," by Mr. J. Harrison.
- January 13 (Tue.).—Stephenson Locomotive Society, London & Southern area, at the Caxton Hall, Westminster, S.W.1,

at 6.45 p.m. "French railways since the war, with some references to the past," will be described by Mr. C. H. Dickson.

- January 14 (Wed.).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1, Birdcage Walk, Westminster, S.W.1, at 5.30 p.m. Paper on "Automatic train control—the British Railways system," by Mr. J. H. Currey.
- January 14 (Wed.).—Institution of Railway Signal Engineers, London Section, at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. Paper on "Microwave radio for use in trunk telecommunications networks," by Mr. P. W. Hanstock.
- January 14 (Wed.).—British Railways Southern Region Lecture & Debating Society, at the Chapter House, St. Thomas' Street, London, S.E.1, at 5.45 for 6 p.m. Mr. F. D. Y. Faulkner will introduce a well-known radio personality.
- January 15 (Thu.).—Permanent Way Institution, London Section, at the Headquarters of the British Transport Commission, 222, Marylebone Road, London, N.W.1, at 6.30 p.m. Discussion. "Any Questions."

Railway Stock Market

The important moves increasing the convertibility of sterling and other leading European currencies, and the drastic measures taken by France to strengthen her financial and economic position, have led to much new thinking in stock markets. There is general confidence that the £ will remain strong. The City feels that the reduction in currency restrictions will increase international trade, so that the outlook for 1959 is viewed hopefully. World trade, it is felt, should expand, and in the circumstances, the big gains already established in industrial shares are regarded as fully justified. The widespread assumption is that the rise in markets is likely to continue, because if world trade expands, this should mean improved earnings and perhaps higher dividends from a wide range of companies. British Funds have rallied, partly because of the increased confidence in the position and outlook for the £, and partly because hopes of a further cut in bank rate to $3\frac{1}{2}$ per cent have been revived. It is being suggested that because of the increased confidence in the outlook for sterling, there may be a big flow of foreign money to London, which might have to be checked by lower money rates.

There have been few movements of importance among foreign railway stocks, but Canadian Pacifics, like dollar stocks generally, tended to be more active. Canadian Pacifics were \$52½, at which there is an attractive yield of over $5\frac{1}{2}$ per cent. The 4 per cent preference stock was 55½, at which there is a yield of more than 7 per cent, while the 4 per cent debentures at 63½ show a yield of over 6½ per cent. White Pass shares have changed hands around \$14½.

Antofagasta ordinary and preference stocks were 13 and 26 respectively. United of Havana second income stock kept at 6½. Mexican Central "A" bearer debentures were 73½, and elsewhere, San Paulo Railway 3s. units remained at 2s. Costa Rica ordinary stock kept at 14 and the 6½ per cent first debentures at 74½. Chilean Northern 5 per cent first debentures have changed hands up to 55. Brazil Railway

bonds strengthened to 7, and in other directions. International of Central America common shares were quoted at \$22½.

West of India Portuguese capital stock held steady at 77, and Barsi were quoted at 24. Nyasaland Railways ordinary shares maintained their rise to 13s. 6d.; the $3\frac{1}{2}$ per cent first debentures were 62½.

The shares of locomotive builders and engineers have been rather more active, partly because of the attractive yields, and partly because it is assumed that orders from British Railways will increase in 1959. Beyer Peacock 5s. shares were 8s. 7½d., at which there is a yield of nearly 9 per cent on the basis of last year's 16 per cent dividend. Charles Roberts 5s. shares were 10s. 6d. Westinghouse Brake at 45s. 3d. were at their highest for 1958. On the other hand, there has been a reaction in North British Locomotive to 14s. Birmingham Wagon were 20s. and G. D. Peters 27s. 6d. In other directions, Gloucester Wagon 10s. shares were 19s. 3d. and Wagon Repairs 5s. shares 10s. 6d. Dowty Group 10s. shares have been active around 46s. and elsewhere, Pressed Steel 5s. shares strengthened to 23s. 7½d.

B.S.A. were 36s. 9d. Elsewhere, Associated Electrical eased to 56s. 3d. English Electric held firm at 60s. 6½d. General Electric were 39s. 3d. with Crompton Parkinson 5s. shares 13s. 7½d. A rise to a new high for 1958 of 57s. 3d. was recorded by British Timken, but Babcock & Wilcox have reacted to 50s. B.I. Cables were 52s. 3d., Ruston & Hornsby 23s. Stone-Platt Industries 44s. 4½d., and T. W. Ward held a rise to 85s.

OFFICIAL NOTICES

WANTED, EXPERIENCED RAILWAY SIGNALING ENGINEERS for development work, for service on the Continent. Applications in own handwriting (not with ballpoint), in confidence, with full details of experience, qualifications, and salary required to Box 740, *Railway Gazette*, 33, Tothill Street, London, S.W.1.

DESIGN DRAUGHTSMAN (minimum age 30) required by established Company west side of London. Knowledge of Railway Signalling, Mechanical and Electrical, essential, good general electrical background desirable. Salary in accordance with technical qualifications. Staff Pension and Production Bonus Schemes operated. Write Box RG 980, c/o 191, Gresham House, E.C.2.

THE NIGERIAN RAILWAY CORPORATION invites applications for the following post—**TRAFFIC INSPECTOR**

Duties: A Traffic Inspector will be required to supervise the Operating and Commercial aspects of a section of the Railway or a Depot Station.

Qualifications: Candidates must have a thorough knowledge and experience of Railway Operating and Commercial work, single-line electric train staff working, marshalling yard procedure, signalling, level crossing operation and rules and regulations applicable to these duties. They must be capable of examining Station Staff in block telegraph regulations. The candidates must also have sufficient experience and knowledge to check Staff Offices, Signal Cabin, Goods Sheds, Booking Offices, etc., and have a good working knowledge of accounts procedure to enable checking of station accounts. They must have a sound knowledge of Accident Procedure and be capable of quick and clear thinking in event of an emergency.

Salary: In scale £1,000 by £50 per annum to £1,400 per annum (inclusive of Overseas Pay). Starting salary according to qualifications and experience. Appointments may be on pensionable terms or on contract with a gratuity payable on completion of contract at the rate of £16 13s. 4d. to £23 4s. 0d. for each completed month of service.

Tours: 15 months in Nigeria followed by 15 weeks leave on full pay.

Quarters: Partly furnished quarters are provided at low rental.

Allowances: There are attractive family, travelling, transport and other allowances.

Send postcard before 12th January, 1959, mentioning the post and this paper, for further particulars and application form to: The London Representative, Nigerian Railway Corporation, Nigeria House, 9, Northumberland Avenue, London, W.C.2.

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